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ABSTRACT

This course outline is intended to assist vocational instructors in developing and teaching a course in the printing trades. The outline, which has been written in accordance with the block progressive method of teaching, addresses the following areas: orientation (a course overview, youth leadership, and theory); layout and design (type, format, and layout); letterpress printing (platen and automatic presses); cold type composition (mechanical, strike-on, phototypesetting, and proofreading techniques); camera operation (line photography, half-tone copy, and color reproduction); techniques of stripping; platemaking methods; offset presses; binderies; and entrepreneurship (economic systems and going into business). Each major block is divided into a series of minor blocks, which are in turn broken down into individual tasks. Each task section includes a task statement, an instructional aim, cross-referenced information outlines, teaching suggestions, and suggested references and aids. Appendixes to the guide include lists of suggested references and guidelines for developing a functional course of study, information on professional services available in Texas, a suggested list of items that should be included when writing specific objectives, and suggested activities. (MN)

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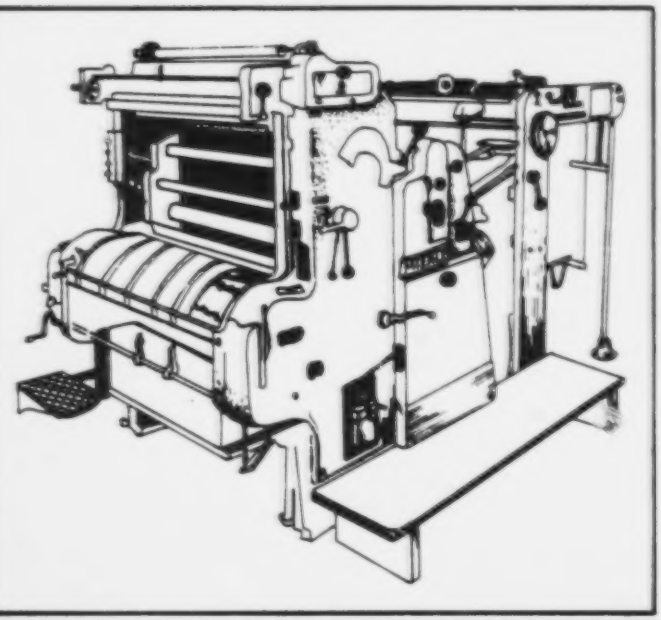
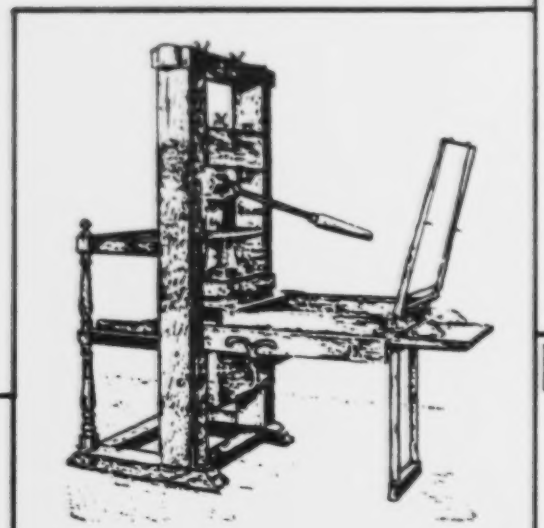
PRINTING TRADES

SUGGESTED BASIC COURSE OUTLINE





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A
Suggested Basic Course Outline
for

PRINTING TRADES

PUBLISHED BY

VOCATIONAL INSTRUCTIONAL SERVICES
VOCATIONAL INDUSTRIAL EDUCATION
TEXAS A&M UNIVERSITY
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FOREWORD

This course outline is one of a series of basic course outlines for teaching vocational industrial shop subjects in public schools Each course was developed by an outstanding vocational industrial teacher from his or her occupational field and reviewed by a select group of vocational industrial teachers. The development of each basic course outline was under the supervision of Vocational Industrial Education staff, Vocational Instructional Services, Texas A&M University and in cooperation with the Texas Education Agency.

The purpose of this basic course outline:

1. To assist the beginning teacher in selecting the occupational skills and related and technical information and provide a basis upon which the teacher can progressively build a functional course of study in accordance with the training needs of the students and the local community.

2. To assist the teacher in identifying and correlating pertinent technical information.

3. To assist the teacher in determining the time needed to teach each lesson and a basis for the proration of time in the total program.

4. To assist the teacher in the selection of appropriate methods, teaching aids, and references, and supply the teacher with the sources of information, films, references, and aids.

5. To assist the teacher in the development of/or selection of appropiate instructional sheets or materials.

6. To assist in the improvement of communications between the teacher and the student through the use of stated behavorial objectives (Aims) for each task and to corresponding technical information.

7. To provide interested educational and industrial groups and individuals with information regarding the scope, content, methods and techniques of trade preparatory instruction.

8. To provide local school administrators and boards of education with information that may assist them in selecting and inaugurating trade preparatory programs best suited to the needs of their student bodies.

This outline includes only the basic skills and technical information to be taught and should be supplemented with the other complementary and necessary areas of related instruction. Experiences should be provided for the development of desirable attitudes and appreciations.

VOCATIONAL INDUSTRIAL EDUCATION

The purpose of vocational industrial education is to develop basic manipulative skills, safety judgements, proper work habits, desirable attitudes and appreciations for the purpose of fitting young persons for initial employment in industrial occupations and of upgrading or retraining workers employed in the printing industry.

Training is provided through practical shop and/or laboratory experiences and other closely related school activities. The local school provides the shops or laboratories, tools, equipment and materials which are comparable to those used in industry. Each student enrolled receives three hours of instruction each day which is centered around the performance of useful or productive jobs and activities and taught by a teacher who is experienced and competent in the occupation.

COURSE OBJECTIVES

This outline is designed with the intention of providing students with an opportunity to develop skills, knowledge, attitudes and leadership, after having the instruction provided by a competent printing trades instructor.

The students will be able to:

1. Perform the basic manipulative skills involved in the occupation.
2. Make application and use of the underlying theories, technical information, and related occupational information to assure sound judgments, decisions and proper procedures involved in the occupation.
3. Appreciate and respect the employer-employee relationship, and have an awareness of the necessity of delivering worthy service for value received.
4. Develop a sense of personal integrity and confidence in their ability to earn their rightful place in the community.
5. Practice those qualities of citizenship which will lead the way toward a happy and productive life in our free enterprise system.
6. Gain employment in the printing industry.

PRINTING TRADES

JOB DESCRIPTION

LETTERPRESS PRINTING: The compositor sets hand composition and composes forms of hand type, line casting machine machine type, plates and engravings, for all types of printing. In newspapers the work of the compositor may be called makeup. Distribution of type, spacing material, operating saws, miterers are also involved. The compositor may also operate cold type headliners and paste up illustrations and photo prints of type for the offset process.

The proofreader reads type composition for typographic errors and questions what might be errors in the copy with the customer.

Layout is copyfitting, markup, selecting type faces, arranging type blocks, display lines, and illustrations for other workers to follow.

Presswork consists of lockup and pre-make ready of type forms. It includes operating platen, cylinder flat bed, and rotary presses.

Bindery operations are: operating paper cutters, wire stitchers, folders, and paper drills. Also, gathering collating, and padding.

OFFSET PROCESS: This area of the graphic arts covers the preparation of camera-ready copy, including the knowledge of setting display type by handset foundry type to produce repro proofs or photographic headliners. It uses the process camera for producing negatives of copy, stripping the flat, and burning the plate. Presswork includes small offset duplicators and the large offset presses.

MACHINE COMPOSITION: Machine composition consists of line casting machines for producing type by the hot metal process. Impact composition includes typewriters and composers for strike-on typesetting. Also, it may use photographic typesetting for direct input devices and the production of perforated tape for computerized phototypesetters.

ACKNOWLEDGEMENTS

Sincere thanks and appreciation is extended to Mr. Henry W. Pfeil, teacher, Printing Trades, Technical Center, El Paso, Texas, for the development of the original basic course outline.

Also, a special note of thanks to Mr. Douglas G. Sullivan, Graphic Arts Instructor, Klein High School, Klein, Texas for contributing materials and advice for this revision.

SUGGESTIONS FOR USING THIS BASIC COURSE OUTLINE

This Basic Course Outline has been developed to assist the vocational industrial education teacher in developing a course of study for teaching a specific occupation. It is not designed to be used in lieu of teacher-prepared instructional material. The outline has been written according to the Block Progressive Method of teaching. If the Spiral Progression Method is to be used, then the teacher should select specific simple tasks and the related information needed for the first year from the outline; for the second year, tasks of more complexity and advanced related information should be selected.

For effective utilization, lesson plans should be developed from the suggested Related Information and Task Details listed in the outline. The teacher must supply the teaching or key points as determined by the trade background of the individual teacher. Each individual should determine according to the students, class situation, and facilities, which method would best be utilized for teaching a particular topic or task.

In addition to Lesson Plans, Job Sheets and Task Sheets will need to be developed for stu-ent use. These may need to be further supplemented by Information Sheets, Assignment Sheets, and Experiment Sheets. Tests should be developed to provide indications of learning achievements for each lesson. Additional tests will be needed to determine the extent of learning in each block.

VISUAL AIDS: Charts, Posters, Films, Filmstrips, Slides, Transparencies, Models, Mock-ups and Field Trips should be obtained, developed or scheduled for instructional purposes.

NOTE: Each page will have some blank space for the instructor to make notes, suggestions, ets. for present or future use.

MAJOR BLOCK I

INTRODUCTION

TASK: 1. Course Overview

AIM: The student will be able to discuss classroom and laboratory activities and to identify areas of the printing trade to be covered in the course.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Orientation	Related Knowledge		
	I. Introduction A. Instructor's name B. Course title C. Course length D. Course credit E. Students	Place on chalkboard: Course title Instructor's name	High school student handbook
	II. Philosophy A. Vocational Industrial Education B. Course	Passout: Course philosophy course objectives	Instructor prepared
	III. Course objectives	Discuss with class	
	IV. Course description A. Scope and content B. Methods of instruction C. Classroom and lab activities	Provide: Course description, method of instruction, job description, job (work) conditions	
	V. Course prerequisites A. Age B. Grade C. Physical dexterity	Explain: Course prerequisites	Local/state school policies
	VI. Course requirements A. Minimum standards of performance B. Attitude C. Attendance	Questions and answers	
	D. Grading system	Passout: Grading system	Instructor prepared
	VII. Major topics studied A. Leadership B. Printing 1. Layout and design 2. Composition 3. Process camera 4. Plate making 5. Bindery 6. Others		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Orientation (continued)	Related Knowledge (con't.) C. Business operation	Questions and answers Quiz	

MAJOR BLOCK I

INTRODUCTION

TASK: 2. School/Lab Policies And Procedures

AIM: The student will be able to work and participate in lab and classroom activities in a manner in line with school policies and shop regulations.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Orientation	**Related Knowledge** I. School policies A. Schedules B. Attendance/tardies C. Grades and credits D. Conduct and dress E. Special activities II. Instructor policies A. Classroom procedures 1. Assignments 2. Notebook B. Laboratory 1. Work stations 2. Traffic lanes 3. Horseplay III. Class organization A. Shop management B. Personal opportunities C. Division of responsibilities D. Procedure for appointment IV. Laboratory activities A. Storage procedure B. Check-out system C. Responsibility for equipment D. Care and cautions E. Returning equipment F. Practical experience 1. Storage of equipment 2. Supply requisitioning 3. Simple job procedures 4. Use of basic equipment	Passout: Rules and regulations Discuss with students Questions and answers Passout: Lab regulations Discuss with students	Local school handbook for students Lab "Rules and Regulations" (teacher prepared)

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Orientation (continued)	Related Knowledge (con't.) V. Housekeeping procedures A. Who responsible B. Specific assignments VI. Equipment and materials A. Machines B. Tools C. Chemicals D. Cleaning E. Permission for use	Tour lab with explanations and demonstrations Quiz	

MAJOR BLOCK I

INTRODUCTION

TASK: 3. Lab And Classroom Safety

AIM: The student will be able to recognize and list practices and procedures conducive to a safe classroom and laboratory.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Orientation	Related Knowledge		
	I. Safety awareness	Show slides	
	A. Causes of accidents	Read and discuss script with slides	Slides: Accident Causes, Group programmed instruction slide set with script. Bureau of Occupational Safety-3-224, U.S. Dept. of Labor, Washington, D.C. 20210. Free, borrower pays return postage. Book two months in advance.
	1. Unsafe conditions		
	2. Unsafe acts		
	B. Types of accidents	Oral quiz on slides	
	C. Safety program		
	II. Attitude	Emphasize importance of attitude	
	A. Attentive, alert		
	B. Cooperative		
	C. Respect for self, others		
	III. Clothing and dress		
	IV. Reporting hazards	Display safety posters	
	V. Accident reports		
	VI. Lab safety		
	A. Equipment	Demonstrate safe methods	Sup. Ref. A, Safety for the Industrial Student, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, TX 77843
	B. Responsibility		
	VII. Prohibited acts		
	A. Running		
	B. Horseplay		
	C. Practical jokes		
	D. Smoking		
	VIIL Solutions - solvents		
	A. Mixing		
	B. Cautions		
	C. Containers		
	D. Ventilation		
	IX. Machinery operation	Passout list of shop safety regulations	
	X. Fire		
	A. Extinguishers		
	1. Location		
	2. Use		
	B. Evacuation procedures		
		Safety test	

MAJOR BLOCK I

INTRODUCTION

TASK: 1. The V.I.C.A. Organization

AIM: The student will be able to actively participate and make positive contributions toward organizing and planning a youth leadership (V.I.C.A.) club and program.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Youth Leadership (V.I.C.A.)	Related Knowledge		
	I. Membership drive	Explain VICA program	Sup. Ref. B, Leadership Handbook, Vocational Industrial Clubs of America, Inc., 105 N. Virginia Ave., Falls Church, VA 20046
	A. Student awareness	Display VICA posters and signs	
	B. Collection of dues	Discuss chapter organization	
	C. Organization report	Advise initiation team	
	D. Initiation ceremony	Oversee initiation ceremony	
	II. Election of officers	New member initiation	Sup. Ref. C, VICA Initiation Ritual, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, TX 77843
	A. Duties of officers	Explain duties and responsibilities of officers	
	B. Qualifications		
	C. Nomination of candidates	Discuss election procedures; oversee election	
	D. Voting		
	III. Installation of officers	Explain officer installation ceremony	
	A. Room arrangement		
	B. Ceremony paraphernalia	Oversee ceremony	
	C. Parts and procedures		Sup. Ref. D, Official Installation Ceremony, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, TX 77843
	IV. Conducting club meetings	Discuss: Essentials of a good meeting	
	A. Essentials of a good meeting	Meeting order of business	
	B. Setting up meeting room	Meeting procedures	
	1. Room arrangement		
	2. Club equipment		
	C. Order of business	Advise and guide meetings, parliamentary procedure	
	D. Business procedures		Sup. Ref. E, Roberts Rules of Order, newly revised, Scott, Foresman and Company, Glenview, IL 60025
	V. Form club committees		
	A. Types of committees		
	1. Standing		
	2. Special		
	B. Function of committees		
	VI. Plan club activities	Review last year's club activities	Chapter notebook (previous year)
	A. Types of activities	Club entertain new ideas	
	1. Fund raising		
	2. Civic		
	3. Social		
	4. Professional		
	B. Typical club calendar		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Youth Leadership (V.I.C.A.)	Task Detail 1. Design and display VICA posters, decorate class bulletin board 2. Initiate new members 3. Nominate officers 4. Elect officers 5. Install officers 6. Conduct first meeting a. Form standing committees b. Plan tentative annual calendar of events	Obtain permission and display Hold initiation day Perform initiation ceremony Hold officer election Perform officer installation	Sup. Ref. F, VICA Membership Yearbook, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, TX 77843

MAJOR BLOCK I INTRODUCTION	TASK: 2. Opportunities in V.I.C.A. AIM: The student will identify VICA as an integral part of Vocational Industrial Education by comparing the goals of each. The student will further recognize the advantages for self-improvement by participation in this youth leadership program.		
MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Youth Leadership (V.I.C.A.)	Related Knowledge I. Purposes A. Develop youth leadership abilities B. Foster a deep respect for the dignity of work C. Promote high standards D. Help students attain a more purposeful life II. History and background A. National B. State III. Symbolism A. Motto B. Pledge C. Creed D. Emblem and colors IV. Organizations A. Local chapters B. State association C. National organization V. Administration A. Elected officers B. Executive secretaries C. Advisory committees VI. Achievement program A. Leadership degrees 1. Classification 2. Requirements B. Industrial degrees 1. Classifications 2. Requirements VII. Why V.I.C.A.	Explain what V.I.C.A. is: its purposes; its goals Explain VICA organization and administration; achievement program Guest speakers	Sup. Ref. B Sup. Ref. G, Responsibility Of The Advisor To VICA, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, Texas 77843 Sup Ref. H, Constitution & By-laws VICA Texas Association, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, Texas 77843 Successful former VICA student Local and/or district officer

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Youth Leadership (V.I.C.A.) (continued)	Related Knowledge (con't.) A. Opportunity to develop leadership abilities 1. Serving as an officer of local, area, or state chapter 2. Attending leadership training conferences	Slide presentation: Tell students what to look for Show slides Discuss slides	Sup. Ref. I, Slide-Tape set, VICA Developing Leaders for Tomorrow's Industry, Vocational Instructional Services, F.E. Box 182. Texas A&M University, College Station, Texas 77843
	B. Participate in local chapter activities 1. Meetings 2. Social functions 3. Service activities 4. Competitive activities	Explain and discuss chapter activities with students	Sup. Ref. J, Texas and National VICA Competitive Activities Guide, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, Texas 77843
	C. Participate in area meeting and state convention 1. Leadership contests 2. Skill--speed contests 3. Technical information 4. Campaigns and elections	Explain and discuss areas of competition at area and state level Discuss students' preparation for events Refer to previous winners	Sup. Ref. K, VICA U.S. Skill Olympics Regulations, Vocational Industrial Clubs of America, Inc., 105 N. Virginia Ave., Falls Church, VA 22046
	D. Personal development and satisfaction		

MAJOR BLOCK I

INTRODUCTION

TASK: 3. Club Business Meeting

AIM: The student will be able to actively participate in planning, preparation, and conducting club business meetings within defined limits of acceptable business procedures.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Youth Leadership (V.I.C.A.)	Related Knowledge		
	I. Essentials of a good meeting	Passout: Leadership handbooks Discuss essentials and importance	Sup. Ref. B, Leadership Handbook, Vocational Industrial Clubs of America, Inc., 105 N. Virginia Ave., Falls Church, VA 22046
	II. Importance of good business procedures	Guest speaker	Professional parliamentarian
	III. Duties and responsibilities of officers	Explain: Duties and responsibilities of officers	
	IV. Planning the meeting A. The agenda B. Notification to members C. Facilities	Brainstorming session w/students "Preparations for Meeting"	
	V. Set up for meeting A. Club paraphernalia and equipment	List: Club paraphernalia and equipment	
	B. Arrangement	Demonstrate: Room arrangement and setup for meeting	
	VI. Order of business		
	VII. Parliamentary procedure A. Importance of B. Application and use	Discuss: Parliamentary procedure; proper use; how to use Assignment: Workbook Test	Sup. Ref. L, Workbook For Parliamentary Procedure and Key Sup. Ref. M, Parliamentary Procedure Examination Workbook and Key, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, Texas 77843
	Task Detail		
	1. Plan meeting	Students rehearse opening and closing ceremonies	
	2. Notify membership		
	3. Set up for meeting	Students set up for meeting	
	4. Conduct meeting a. Opening ceremony b. Order of business--use parliamentary procedure c. Present program d. Closing ceremony	Students practice parliamentary procedures	
	5. Clean up after meeting	Performance test: Conduct formal business meeting	Sup. Ref. N, Parliamentary Guide for Vocational Industrial Clubs, Gray, Jarrell D., Box 717, Commerce, Texas 76528

MAJOR BLOCK I

INTRODUCTION

TASK: 1. History of Printing

AIM: The student will be able to describe how lithography has developed into the modern printing methods of today.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Theory	Related Knowledge I. Earliest developments A. Paper invented 1. China 2. A.D. 105 B. Wood block printing 1. Japan 2. A.D. 770 C. First book 1. The Diamond Studio 2. China 3. A.D. 870 D. Moveable type 1. China 2. A.D. 1100 E. Mass communication 1. Metal type 2. Gutenberg 3. Germany 4. 1450 II. Colonial America A. First press 1. Boston, Mass. 2. Harvard University 3. 1638 B. Newspapers 1. Early 1700's 2. James Franklin 3. Benjamin Franklin C. Typesetting machine 1. Mergenthaler 2. 1880's 3. New York Tribune 4. Revolutionized Trade	Reading assignment Discussion Illustrate	Ref. 1, Dennis, Ervin A., Jenkins, John D., Comprehensive Graphic Arts, Howard W. Sams & Co., Inc., New York, 1975 Ref. 2, Cogoli, John E., Photo-Offset Fundamentals, McKnight & McKnight, Bloomington, IL, 1980

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Theory (continued)	Related Knowledge (con't.) III. Lithography A. Senefelder 1. Bohemia 2. 1771-1834 3. Developed process 4. Invented press 5. "Father" of Lithography B. United States 1. Nathaniel Currier 2. James Ives 3. Partners - 1857 C. Improvements 1. Cylinder press 2. Metal plates 3. Offset process	Oral quiz	

MAJOR BLOCK I

INTRODUCTION

TASK: 2. The Industry

AIM: The student will be able to describe the more important types of processes used in the printing industry.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Theory	Related Knowledge		
	I. Process types A. Letterpress B. Gravure C. Silk screen D. Engraving E. Offset	Reading assignment Discussion	Ref. 2
	II. Relative values A. Dollar values B. Future trends		
	III. Offset process A. Flat plate 1. Surface 2. Image	Passout: List of words and phrases used in the trade	Teacher prepared
	B. Water and ink 1. Characteristics 2. Balance		
	C. Part of press 1. Plate cylinder 2. Blanket cylinder 3. Impression cylinder 4. Fountains a. Water b. Ink	Demonstrate	
	D. Procedure 1. Inking 2. Printing a. Offset press b. Proof press		
	Task Detail		
	Select a small job to demonstrate. Have students perform steps.	Performance test	

MAJOR BLOCK I

INTRODUCTION

TASK: 3. Printing Restrictions

AIM: The student will be able to relate the legal restrictions in the printing trade.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Theory	Related Knowledge I. Copyright law A. Definition B. Duration of copyright 1. Prior to 1978 2. After 1978 C. Notice of copyright 1. Word or symbol 2. Year of publication 3. Copyright owner D. Public domain E. Permission to use II. Advertisements A. Recognizable faces B. Permission necessary C. Guardian for minor III. Counterfeiting A. Currency - U.S. and foreign B. Savings bonds - stamps C. Postage stamps 1. U.S. 2. Foreign IV. Documents A. Licenses 1. Drivers' 2. Amateur radio operators' B. Classified documents C. Draft registration D. Law enforcement officials' I.D.	Lecture/discussion	Circular R 99, Highlights of the New Copyright Laws, Copyright Office, Library of Congress, Washington, D.C. 20559 Ref. 2

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Theory (continued)	<u>Related Knowledge</u> (con't.) V. Offensive materials A. Religion B. Race C. Obscene	Review and summarize	

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 1. Printers' Type

AIM: The student will be able to describe printers' types, their parts and the point system.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	Related Knowledge		
	I. Printers' type	Reading assignment	Ref. 2
	A. Styles	Lecture	
	B. Font characters		
	C. Typeface parts		
	D. Type families		
	E. Type series	Display	
	F. Hot and cold type		
	II. Measurements		
	A. Type		
	B. Line spacing		
	C. Point system		
	D. Mathematics		
	III. Images		
	A. Caps		
	B. Small caps		
	C. Lower case		
	D. Figures		
	E. Spacing and quads	Review	
		Oral quiz	

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 2. Foundry Type Use

AIM: The student will be able to identify parts of the composing stick and to set a line of type.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	**Related Knowledge** I. Rouse job stick II. Buckeye composing stick III. California job case IV. Hand composition A. Composing stick parts B. Galley C. Reading type 1. Upside down 2. Left to right D. Justification V. Tools A. Mitering machine B. Slug cutter C. Others	Reading assignment Explanation Display	Ref. 1
	Task Detail Practice setting composing stick characters and slugs	Demonstrate task Performance Test	

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 3. Pull A Proof

AIM: The student will be able to print a copy of work and correct for errors and spacing.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	Related Knowledge I. Impression and inking II. Types of proof presses III. Parts of proof presses IV. Types of proofs V. Pulling proofs	Reading assignment Oral questions Drill on lesson Discussion Supervised study	Ref. 1
	Task Detail 1. Type and form furnished student by instructor 2. Replace packing on proof press cylinder 3. Pour small amount of ink on plate 4. Spread ink with brayer 5. Place galley with type on bed of press 6. Roll inked brayer over type, be sure to cover all type 7. Position paper on form 8. Crank cylinder over paper 9. Remove proof and check 10. Clean type form, use rag and solvent	Demonstrate Practice on task CAUTION: Do not over ink Performance test	

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 4. Set Line Of Type

AIM: The student will be able to use the composition stick to set a line of type, read the line for errors, and justify line of type.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	**Related Knowledge**		
	I. Process of setting type	Review	Ref. 1
	II. Setting type	Discuss	
	III. Justification of type	Explain	
	IV. Review composition stick	Oral questions	
	V. Review pulling proof		
	Task Detail		
	1. Student to set own name in full from assigned type case	Demonstrate Have students make corrections Practice on task	
	2. Release clamp on stick	Performance test	
	3. Move knee far enough back for stick to hold name		
	4. Hold stick in left hand		
	5. Select type one at a time with right hand		
	6. Hold type between thumb and forefinger		
	7. Type face up nick away from body		
	8. Place type in left side of stick		
	9. Next letter to right of last until line is set		
	10. Hold letters in position with left thumb as line is set		
	11. Letters will be in stick upside down		
	12. Shove knee and line of type against end of stick bed		
	13. Tighten clamp		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format (continued)	Task Detail (con't.) 14. Check line of type for tightness in stick 15. If line of type is loose a. Loosen clamp b. Justify line with spaces at end of stick away from clamp 16. Clamp type line 17. Pull proof 18. Paste name label on personal type case 19. Clean up and return equipment to storage		

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 5. Tie-Up Type

AIM: The student will be able to remove type from composition stick, place type in galley, tie-up type on galley in preparation for storing type.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	**Related Knowledge**		
	I. Review composition stick	Reading assignment	Ref. 1
	II. Removal of type from stick	Explain	
	III. Placing type in galley	Discuss	
	IV. Tying-up the form	Oral questions	
	V. Emptying the galley	Drill on lesson	
	Task Detail		
	1. Take type from stick	Demonstrate	
	2. Put type in galley	Practice on task	
	3. Place galley on inclined bank, head of galley on right side	Performance test	
	4. Place composition stick on galley		
	5. Release type in stick		
	a. Use right hand		
	b. Thumb on outside of galley		
	c. All four fingers squeeze type at bottom		
	d. Release clamp with left hand		
	6. Remove type		
	a. Place index fingers on inside of type		
	b. Bend middle fingers, place on each end of type and squeeze in toward center		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format (continued)	Task Detail (con't.) 7. Raise type and place on galley a. Nicks on bottom side b. At head of galley 8. Make one turn around form with string, lapping string at beginning 9. Make subsequent turns with string 10. Pull string tight at each corner 11. Use make-up rule, tuck string in right-hand top corner 12. Make loop in loose end of string to bottom side 13. Pull loop down and to corner 14. Cut off excess string with rule NOTE: Do not tie string		

MAJOR BLOCK II

INTRODUCTION

TASK: 6. Distribute Type

AIM: The student will be able to distribute type from lead form back into correct case and boxes.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	**Related Knowledge** I. Review tie-up II. Parts of a piece of type III. Type metal IV. Ways to identify type faces V. Distribution from galley VI. Holding the type VII. Distributing letters VIII. Distributing leads and slugs	Reading assignment Discussion Oral questions Drill on the lesson Test	Ref. 1
	Task Detail 1. Place form on galley 2. Place slug under bottom line 3. With thumbs and fore-fingers squeeze bottom line together 4. Slide bottom line away from remaining type matter 5. Place slug at top of line 6. Squeeze and raise line as in tie-up 7. Hold in left hand between thumb and second finger nicks up 8. Take one word at a time between thumb and fore-finger of right hand 9. Spell word back into case 10. Use second finger as kicker under feet of type	Demonstrate Practice on task Performance	

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 7. Format Design

AIM: The student will be able to define terms used to describe various methods of line and paragraph structure.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Type and Format	Related Knowledge I. Composition A. Square indention B. Normal indention C. Hanging indention D. Quadded left E. Quadded right F. Flush left and right G. Quadded left, ragged right H. Quadded right, ragged left I. Initial letters J. Run-around K. Tabular composition L. Ruled composition II. Leaders III. Line spacing A. Spacing in B. Line gauge C. Justification	Reading assignment Lecture/discussion Examples of each	Ref. 2

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MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 1. Layout Principles

AIM: The student will be able to identify layout equipment and basic types of layouts.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	Related Knowledge I. Equipment A. Paper 1. Grades 2. Tracing B. Drafting tool C. Inks and pencils D. Others II. Basic layout A. Thumbnail B. Rough C. Comprehensive III. Notations A. Face B. Leading C. Line length Task Detail Prepare thumbnail and rough layouts	Reading Assignment Passout: Sheet-standard notations Demonstrate	Ref. 2 Teacher prepared

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 2. Copyfitting and Illustrations

AIM: The student will be able to demonstrate procedures for copyfitting and dummy preparation.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	Related Knowledge		
	I. Copyfitting	Reading assignment	Ref. 2
	A. Display type	Lecture	
	1. Definition		
	2. Measurements		
	B. Text or body type		
	1. Definition		
	2. Measurements		
	a. Number of characters		
	b. Number of lines		
	c. Margins		
	II. Illustrations		
	A. Marking space		
	B. Keying		
	III. Dummy preparation		
	A. Purpose		
	B. Procedure		
	C. Facing pages		
	D. Proportions	Demonstrate	
	1. Four pages		
	2. Six pages		
	Task Detail		
	Practice copyfitting and dummy preparation	Performance test	

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MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 3. Principles of Color

AIM: The student will be able to describe the use of color in the printing industry.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	Related Knowledge		
	I. Color wheel	Lecture	Ref. 1
	A. Primary colors	Discussion	
	B. Secondary colors		
	C. Intermediate colors		
	II. Black and white		
	A. Absorption		
	B. Reflection		
	III. Harmony		
	A. Monochromatic		
	1. Shade		
	2. Tint		
	B. Analagous		
	C. Complementary		
	D. Triadic colors		
	IV. Use of color	Demonstrate	
	A. Warm colors		
	B. Cool colors		
	C. Emotions	Oral Questions	

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 4. Assemble Leads, Slugs, And Furniture

AIM: The student will be able to select leads, slugs, and furniture, and assemble leads, slugs, and furniture according to directions without the use of line gauge on stick.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	Related Knowledge		
	I. Review quads, and spaces, letters, and words	Reading assignment Display leads, slugs, and furniture	Ref. 1
	II. Review point system		
	III. Spacing material for line spacing	Discuss	
	IV. Spacing for large open areas		
	V. Metal and iron furniture		
	VI. Wood furniture		
	VII. Reglets		
	Task Detail		
	NOTE: Line gauge is not to be used for this task	Tour shop locating for students: lead and slug rack furniture cabinet and labeling	
	1. Place galley on inclined surface	Demonstrate	
	2. Select leads	Practice on task	
	a. 2 point	Performance test	
	b. Equal to half pica slug		
	c. Assemble on galley		
	3. Select slugs		
	a. 6 point		
	b. Equal to two picas		
	c. Assemble on galley		
	4. Select furniture		
	a. For 3 inch by 5 inch rectangle		
	b. Assemble on galley		
	5. Return materials to storage		
	6. Clean work station		

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 5. Make Layout

AIM: The student will be able to make a layout and work from the layout selecting the correct fonts of type, series type, or family of type and hand set a specified printing job.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	**Related Knowledge** I. Fonts of type II. Body type and display type III. Series of type IV. Family of type V. Five basic type faces, origin and use VI. Focal point or optical center, how to find VII. Selecting type for a job VIII. Preparation and use of layout	Visual Aid: 3'x4' heavy sheet metal, sample five basic type faces blown-up and printed on 5"x10" six ply poster board Place magnets on back of each 5"x10" piece of poster board to hold examples to sheet metal for illustration and lecture Reading assignment Class discussion Oral questions Drill on lesson	Visual Aid: Teacher prepared Ref. 1 Ref. 3, Karch, R. Ralph, Graphic Arts Procedures, American Technical Society, 848 East Fifty-Eighth Street, Chicago, IL 60637
	Task Detail 1. Layout for 11"x14" poster 2. Locate focal point on poster area and mark with dot 3. Draw guide lines a. Use information from chalkboard b. For printed information 4. Draw letters a. Draw letters b. Between guide lines c. Exact size	Put information for poster on chalkboard Demonstrate Supervised practice on task Performance test	

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout (continued)	Task Detail (con't.) 5. Indicate in right margin type a. Size b. Kind 6. Indicate size of stock in: a. Top margin b. Left margin 7. Put away materials 8. Clean work station		

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MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 6. Cut Slugs

AIM: The student will be able to adjust slug cutter to designated settings and use slug cutter to cut line and word spacing material to specifications.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	**Related Knowledge** I. Review point system II. Ways to cut spacing material III. Operation of the lead and rule cutter	Lecture Drill on lesson Supervised study Oral questions	Ref. 1
	Task Detail 1. Adjust left gauge of slug cutter a. Press button between thumb and index finger b. Slide gauge to 33 picas 2. Place slug in bed 3. Cut 33 pica slug 4. Press button and slide gauge to 22½ picas 5. Remove slug 6. Place lead in bed and align 7. Cut lead to 22½ picas 8. Pull knob and set right gauge to 1 pica 9. Back off on micrometer setting from zero 2 points 10. Determine material to use to cut 5-em spaces for 10 point type 11. Cut 5-em space for 10 point type 12. Set right gauge for 3-em space for 18 point type	Demonstrate Emphasize safety Practice on task Performance test	

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout (continued)	Task Detail (con't.) 13. Determine material to use to cut 3-em spaces for 18 point type 14. Cut 3-em spaces for 18 point type 15. Return materials to storage 16. Clean work station		

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 7. Miter Ends Of Border On Rule

AIM: The student will be able to select material, cut border on rule to size and position border on rule around type forms.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	**Related Knowledge**		
	I. Border or rule thickness	Display samples of rules and borders	Ref. 1
	II. Inside dimensions of box	Explain	
	III. Various rules and borders	Discuss	
	IV. Harmony of type and border	Lecture	
	V. Cutting metal rule	Oral questions	
	VI. Mitering metal rules		
	VII. Aligning rules with hand set type		
	VIII. Rule boxes and borders		
	IX. Mitered corners		
	Task Detail		
	1. Select rule material	Demonstrate task	
	2. Adjust left gauge of slug cutter 15 picas	Supervised practice on task	
	3. Place rule material in bed of slug cutter	Performance test	
	4. Cut 2 pieces of rule 15 picas in length		
	5. Adjust left gauge of slug cutter to cut 22 picas		
	6. Place rule material in bed of slug cutter		
	7. Cut 2 pieces of rule 22 picas in length		
	8. Adjust mitering machine work holder to cut 45 degree miter		
	9. Insert narrow piece of cardboard under cutting end of work holder		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout (continued)	Task Detail (con't.) 10. Tighten work holder down 11. Adjust miter cutter gauge on 15 picas 12. Place 15 pica piece of rule on edge on operator side of rule holder 13. Face of rule up 14. Move cutting handle to right and raise 15. Move cutting handle to left and down to miter rule 16. Reverse rule on rule holder to miter opposite end on same side as previous miter 17. Repeat steps 13-15 for second miter 18. Adjust miter cutter gauge on 22 picas 19. Repeat steps 12-16 to miter 22 pica piece of rule 20. Place ruler in galley stand on edge and form rectangular box 21. Tie-up box 22. Fill in skeletal box with spacing material 23. Pull a proof 24. Return materials 25. Clean work station		

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: 8. Mark Printer's Proof

AIM: The student will be able to read proof, detect errors in type form, and mark errors using the correct proofreaders marks to indicate errors, kinds, and types.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	**Related Knowledge**		
	I. Proofreader's marks	Reading assignment	Ref. 1
	II. Use of proofreader's marks	Pass-out sheet of proofreader marks	Pass-out sheet: Teacher prepared
	III. Marking the errors	Illustrate proofreader marks on chalkboard	
	IV. Duties of copy holder	Discuss	
		Oral questions	
		Drill on lesson	
		Test	
	Task Detail		
	1. Teacher furnishes students with proof containing errors and correct copy	Demonstrate Task sheet	Task sheet: Teacher prepared proof with errors
	2. Read proof	Practice on task	
	3. Compare proof to correct copy	Performance test	
	4. Use proofreader's marks		
	5. Mark errors for correction		
	6. Check work		

MAJOR BLOCK II

LAYOUT AND DESIGN

TASK: Proof And Correct Type Form

AIM: The student will be able to proof and correct errors in type form using type, furniture, and tweezers called for in the task and re-check justification.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Layout	Related Knowledge I. Review pulling proof II. Review proof press III. Clean type IV. Making corrections V. Using tweezers VI. Over-running, under-running	Reading assignment Class discussion Illustrate use of tweezers Oral questions	Ref. 1
	Task Detail 1. Make minor corrections in galley 2. Check justification of lines a. Place furniture on right side of form b. Other end against galley c. Squeeze form by pressing on furniture d. Check each line for justification by placing finger on line and moving finger back and forth 3. Add or subtract spacing where necessary 4. Where whole words are added or removed return type to stick to be justified correctly 5. Pull revised copy 6. Clean work station 7. Return all materials to storage.	Demonstrate Emphasize caution with use of tweezers Practice on task Performance test	

MAJOR BLOCK III
LETTERPRESS PRINTING

TASK: 1. Make Lockup For Platen Press

AIM: The student will be able to lockup type form for platen press printing.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Platen Press	Related Knowledge		
	I. Three main process of printing II. Three types of letterpresses III. Lockup, justification (Kinesthesia) IV. Position of form in chase V. Placing furniture around form VI. Position of quoins VII. Parts of platen press VIII. Safety IX. Care of platen press	Reading assignment Discussion Drill on lesson Field trip: Tell students what to look for on trip Discuss field trip	Ref. #1
	Task Detail		
	1. Clean lockup stone 2. Place tied-up form on stone 3. Place head of form to left or bottom depending on size of sheet 4. Place appropriate chase over form short sides left and right 5. Surround form with furniture, either squared or chaser method 6. Center form left to right in chase 7. Position form slightly above center top to bottom 8. Remove string from form 9. Fill in with furniture	Demonstrate Discuss different jobs and lockups. Practice on task Performance test	

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Platen Press (Continued)	Task Detail (con't.) guide sides first, furniture lengths longer at chase graduating shorter to type form 10. Fill in top and right with fruniture, quoins and reglets. Quoins are not to be placed against chase 11. Tighten quoins until slight pressure is felt with key 12. Plane form with mallet and plane 13. Finish tightening quoins 14. Check for lift, raise corner of chase 15. Return materials to storage 16. Clean work station		

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MAJOR BLOCK III LETTERPRESS PRINTING	TASK: 2. Operate Platen Press AIM: The student will be able to ink, set impression, set margins, and new job on platen press.		
MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Platen Press	Related Knowledge		
	I. Review lockup II. Inking press III. Installing the type form IV. Regulating impression V. Sitting guides VI. Feeding press VII. Set-off VIII. Slip-sheeting XI. Jogging	Reading assignment Discussion Lecture Oral questions Drill on lesson	Ref. #1, Ch. 16
	Task Detail		
	1. Place small amount of ink on ink disk 2. Distribute ink, turn on maching 3. Stop press 4. Remove old packing 5. Cut tympan to size 6. Crease tympan approximately one inch on bottom 7. Place tympan on platen 8. Close bottom bale on tympan 9. Place packing sheets on platen under tympan 10. Close top bale on tympan 11. Place form on bed of press 12. Start press 13. Pull impression on tympan 14. Stop press 15. Mark margins on tympan 16. Insert guage pins at margin marks on tympan 17. Start press	Demonstrate Stress safety NOTE: Students feed 3" x 5" cards stock without form on press to develop rhythm of feeding press Practice on task Performance test	

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Platen Press (Continued)	Task Detail (Con't) 18. Pull impression on one sheet of stock to be printed 19. Check margins, impressions, and ink 20. Make necessary adjustments 21. Clean tympan with rag and solvent 22. Tap gauge pins with press wrench to secure and machine is ready to print		

MAJOR BLOCK III
LETTERPRESS
PRINTING

TASK: 3. Washup Platen Press And Service

AIM: The student will be able to clean, oil, and service platen press.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Platen Press	Related Knowledge		
	I. Scoring, die cutting, and perforating II. Numbering III. Roller care	Discussion Explanation Oral questions	Ref. #3
	Task Detail		
	1. Wash ink disc, use solvent and rag 2. Turn flywheel by hand 3. Wash rollers while rotating up toward disc 4. Wipe rollers and ink disc dry with clean rag 5. Oil all moving parts 6. Wipe off excess oil 7. Check rollers with type-high gauge 8. Adjust expansion trucks	Demonstrate Emphasize safety Practice on task Performance test	

MAJOR BLOCK III
LETTERPRESS PRINTING

TASK: 1. Make Lockup For Automatic Platen Press

AIM: The student will be able to make lockup and adjust margins for printing job on automatic platen press.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press	Related Knowledge		
	I. Review platen press II. Margins and guides	Reading assignment	Ref. #1, Manufacturer's Press Manual
		Oral questions	
	Task Detail		
	1. Clean lockup stone 2. Place form on lockup stone 3. Place chase over form 4. Place necessary spacing between form and chase at guide sides 5. Proceed as in platen press lockup task	Demonstrate Practice on task Performance test	

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MAJOR BLOCK III LETTERPRESS PRINTING	TASK: 2. Set Ink Fountain AIM: The student will be able to adjust fountain screws and obtain an even flow of ink for the printing press.		
MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press	<u>Related Knowledge</u> I. Difference in letterpress and offset ink II. Kinds of letterpress printing ink III. Ink drier IV. Care of printing ink V. Printing colors VI. Mixing colored inks VII. Shading and tinting <u>Task Detail</u> 1. Close fountain blade against fountain roll 2. Secure fountain blade with wing nut 3. Skim ink from top, do not dig in 4. Place ink in fountain 5. Start press 6. Slip clutch and inch press until ductor roller is against fountain roll 7. Stop press 8. Turn fountain roll by hand 9. Adjust fountain screws to obtain thin even flow of ink across ductor roller	Reading assignment Display of inks Discussion Explanation Drill on lesson Demonstration Stress cleanliness Stress conservation of materials Practice on task Performance test	Ref. #1

MAJOR BLOCK III
LETTERPRESS PRINTING

TASK: 3. Operate Automatic Platen Press

AIM: The student will be able to set margins, set impressions, adjust ink flow, set feed and delivery, and print material according to required specifications.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press	Related Knowledge I. Review platen press II. Adjusting impression and and differences III. Feeding IV. Delivery V. Review inking	Discussion Oral questions Drill on lesson	Manufacturer's manual for specific press
	Task Detail 1. Loosen wing nut on left pile guide 2. Slide guide to left 3. Tighten wing nut 4. Load stock into feeder 5. Position right pile guide against stock a. Loosen wing nut b. Slide right guide to stock c. Tighten wing nut 6. Remove top and bottom holding rods form platen 7. Loosen platen right clamp 8. Remove packing 9. Place tympan, super book paper, and sheet of stock to be printed in slot of right delivery guide, add or subtract sheets until firm feel is obtained 10. Place tympan on platen 11. Secure tympan with bottom rod 12. Place packing sheets on	Demonstrate Emphasize safety Emphasize craftsmanship Practice on task Performance test	

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press (continued)	Task Detail (Con't.) platen under tympan, sheet to be printed is not to be included in the packing 13. Place top rod on bottom of platen 14. Press down, pulling to top of platen, press rod into clips 15. Tighten clamp on ride side of platen 16. Turn press on 17. Push start lever and slip clutch 18. Ease one sheet of stock from feeder to delivery 19. Stop press before gripper drops sheet 20. Loosen wing nuts on delivery guides 21. Move guides to sheet held by gripper 22. Tighten guide wing nuts 23. Remove sheet from gripper and place on delivery table 24. Set bottom guide 25. Place ink in fountain and adjust as in previous task 26. Turn on press, push starting lever to left to engage 27. Run press and distribute ink 28. Stop press with rollers down 29. Place form in bed, tighten clamp 30. Start press 31. Pull impression on stock to be run 32. Check margins, ink and		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press (continued)	Task Detail (Con't.) impression 33. Make needed adjustments for corrections		

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MAJOR BLOCK III
LETTERPRESS
PRINTING

TASK: 4. Run Automatic Cylinder Press

AIM: The student will be able to adjust and set ink, margins, and impression to run a job on an automatic cylinder press.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press	Related Knowledge		
	I. Review automatic platen press and lockup II. Differences in printing area of press III. Cylinder packing	Lecture Class discussion Oral questions	Manufacturer's Manual for Specific Press
	Task Detail		
	1. Ink press as in automatic platen press 2. Set feeder and delivery as in automatic platen press 3. Place chase on bed with quoins at clamping end 4. Open quoins with key 5. Tighten clamps 6. Tighten quoins feeling for slight pressure 7. Plane form with mallet and plane 8. Tighten quoins securely 9. Turn on press 10. Engage starting lever 11. Stop press with cylinder packing clamp at top 12. Release packing clamp with press pin 13. Remove packing sheets 14. Engage starting lever 15. Stop press with gripper up 16. Loosen clamp with press pin 17. Remove tympan 18. Cut new tympan to size, use	Demonstrate Emphasize safety Emphasize craftsmanship Practice on task Performance test	

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Automatic Press (continued)	Task Detail (Con't.) old tympan as pattern 19. Crease new tympan one inch at gripper edge 20. Place creased edge of new tympan between cylinder and clamp 21. Tighten clamp 22. Repeat step 11 23. Insert packing sheets between cylinder and tympan 24. Insert tail of tympan into clamp and tighten 25. Run press 26. Pull impression 27. Check margins, ink, and impression 28. Make adjustments as needed		

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 1. Artwork and Hand Lettering

AIM: The student will be able to describe how artwork and hand lettering are used in mechanical composition.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Mechanical	**Related Knowledge** I. Types A. Drawings and cartoons B. Cover designs C. Special Lettering 1. Display lines 2. Larger sized words D. Maps and graphs E. Others II. Materials A. Line process 1. India ink 2. Pens or brush 3. Paper a. Semi-gloss b. Dull B. Halftone process 1. Pencil, crayon 2. Airbrush 3. Watercolor 4. Oil paints 5. All tone gradua-tions III. Precautions A. Clean work B. Ink bottle 1. Wide base 2. Off drawing board 3. Guide lines a. Blue pencil b. Non-repro-ducing C. Let ink dry D. Cleanliness 1. Hands 2. Tools	Reading assignment Discussions Questions Examples Demonstrate	Ref. #2 Ref. #4

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Mechanical (Continued)	Related Knowledge (con't) E. Corrections 1. Paint over 2. Redraw part a. Paste over b. Paint edges IV. Drawing/lettering aids A. Lettering pens 1. Reservior pens 2. Speedball pen 3. Ruling pen B. Brushes C. Triangles D. Templates E. Scribers F. Headwriter G. Others Task Detail Demonstrate proper procedure and have students practice using tools to prepare line process composition	Perform task Performance test	

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 2. Ruling Pen Use

AIM: The student will be able to properly use and care for the ruling pen.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Mechanical	**Related Knowledge** I. Ruling pen parts A. Adjustment screw B. Blades or nibs 1. Tempered steel 2. Sharpened 3. Even at tip C. Body or shaft II. Drawing ink A. Mostly carbon B. Colloidal suspension C. Gum 1. Waterproof 2. Quick drying D. Keep bottle covered 1. Evaporation 2. Thickening E. Thinning agent 1. Aqua ammonia 2. Distilled water III. Proper use A. Never freehand B. Drawing instruments C. Filling procedure D. Causes of problems 1. Incorrect positioning 2. Fast drying ink 3. Lack of control a. Line thickness b. Junctures E. Pen position 1. Direction of line 2. Angle 3. Thumbscrew F. Pressure 1. On paper	Reading assignment Discussion Questions/answers Chalkboard illustrations Demonstrations	Ref. #2 Ref. #5, Giesecke, Mitchell, Spencer, Hill, Technical Drawing, The Macmillan Co., Toronto, Ontario, 1967.

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MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Mechanical (Continued)	Related Knowledge (con't) 2. On nibs 3. Problems IV. Care of pen A. Cleaning 1. Fluids 2. Procedure B. Sharpening 1. Tools 2. Procedure 3. Precautions a. Shape b. Sharpness 4. Storage Task Detail Issue necessary materials and have students practice inking lines with the ruling pen	Demonstrate task Performance test	

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 3. Preprinted Materials

AIM: The student will be able to identify and use preprinted materials in camera copy perparation.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Mechanical	Related Knowledge I. Clip art A. Commercially prepared 1. Line illustrations 2. Halftones 3. Borders 4. Decorations B. Legal aspects C. Procedure II. Preprinted type A. Tab-type 1. Display lines 2. Sizes and faces 3. Procedure B. Adhesive type 1. Display type 2. Borders 3. Sheets or rolls 4. Procedure III. Transfer type A. Components 1. Clear plastic sheet 2. Transferable ink B. Variety available C. Procedure D. Corrections IV. Existing works A. Legal aspects B. Used in combinations C. Halftone problems 1. Enlargements 2. Reductions V. Photostats A. Paste-ups B. Special camera	Reading assignment Discussion Questions Examples Demonstrate	Ref. #2

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Mechanical (Continued)	Related Knowledge (con't) 1. Reverse print 2. Positive print C. Legal aspects Task Detail Have students practice using preprinted materials as resources permit.	Practice task Performance test	

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MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 1. Reproduction Typing

AIM: The student will be able to describe the general procedure in typing for reproduction.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Strike-On	**Related Knowledge** I. Scope A. Vast amount B. Simple method 1. Paper plate 2. Standard typewriter II. Procedure A. Dull white paper B. Blue guide lines C. Spacing 1. Letters and spaces 2. Proportional D. Justification 1. Manual 2. Rough draft 3. Justified draft E. Type 1. Sizes 2. Styles F. Corrections 1. Opaque liquid 2. Cutting in III. Direct-image plate A. Called paper master B. Special paper C. Special ribbon 1. Water proof 2. One-time	Reading assignment Discussion Questions Examples Demonstrate	Ref. #2
	Task Detail Have students type and justify direct-image plates.	Perform task Performance test	

MAJOR BLOCK IV COLD TYPE COMPOSITION	TASK: 2. Reproduction Typewriter Machines AIM: The student will be able to describe various machines used in cold type composition.		
MINOR BLOCK B	**INFORMATION & TASK DETAIL**	**SUGGESTIONS FOR TEACHING**	**REFERENCES AND AIDS**
Strike-On	<u>Related Knowledge</u> I. Machine care A. Dust cover B. Cleaning C. Service and repair 1. Service contract 2. Qualified person D. Operator 1. Training 2. Manual II. Electric typewriters A. IBM Executive 1. Proportional spacing 2. Ribbons a. Fabric b. Carbon c. Both 3. Wide carriage 4. Justifying B. Underwood Raphael 1. Proportional spacing 2. Polyethylene ribbon 3. Justification a. Use i method b. Procedure C. IBM Selectric 1. Ribbons 2. Typing element a. Removable b. Various typefaces D. IBM Selectric Composer 1. Keyboard operated	Reading assignment Discussion Questions Demonstrate	Ref. #2 Operator's manual

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Strike-On (Continued)	Related Knowledge (con't) 2. Actuated electrically 3. Sphere element 4. Type faces 5. Justification a. Semiautomatic b. Procedure E. IBM Electronic Selectric Composer 1. Automatic justification 2. Automatic formats a. Centered copy b. Dot leaders c. Others 3. Electronic module a. Memory b. 8000 characters c. Codes III. Varityper A. Composing machine 1. Paper 2. Offset plates B. Models vary 1. Different letterspacing 2. Automatic justification C. Composition variety Task Detail Develop tasks as resources permit		

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 1. Overview

AIM: The student will be able to describe phototypesetting principles in composition.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting	Related Knowledge I. Phototype principles A. Paper 1. Resin coated 2. Sensitized B. Usually right-reading C. Film D. Reverse phototype II. Basic process A. Light through font B. Shutter limits C. Sizing lens D. Image on paper E. Processing 1. Machine processor 2. Tank processing a. Develop b. Rinse c. Fix d. Wash e. Dry III. Stabilization paper A. Characteristics B. Range of contrasts C. Process 1. Exposure 2. Activator 3. Image develops 4. Stabilizer bath 5. Image is set D. Limited keeping time E. Must be fixed 1. Makes it permanent 2. Hypo fixer solution	Reading assignment Discussion Questions Examples Demonstrate	Ref. #2 Manufacturer's instructions

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MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) IV. Type size and purpose A. Display type 1. 14 to 96 points 2. Get attention a. Headlines b. Advertising B. Text type 1. 4 to 12 points 2. Reading material 3. Body type Task Detail Develop tasks as resources permit		

MAJOR BLOCK IV COLD TYPE COMPOSITION	TASK: 2. Manual Photodisplay Machines AIM: The student will be able to describe various manually operated typesetters and explain their functions.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting	Related Knowledge I. Machines vary A. Phototype size 1. 10 to 84 points 2. 14 to 72 points B. Operation 1. Manual 2. Automatic commands C. Printing 1. Contact principle 2. Projection principle II. Manual procedure A. Font selection 1. Film negative 2. Disc, strip, etc. B. Font positioned C. Exposure made D. Succession of characters E. Paper cut F. Developed G. Mounted III. StripPrinter A. Contact printing B. 35mm C. Negative or positive D. Models vary E. Operation 1. Machine loaded 2. Exposure unit 3. Characters selected 4. Spacing 5. Processing 6. Mounting	Reading assignment Discussion Questions Demonstrate Field trip to local newspaper	Ref. #2 Manufacturer's instructions

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) IV. VariType Headliner A. Models 1. 800-single lines 2. 840-up to 5 lines 3. 880-page composer B. 35mm 1. Paper 2. Film C. Type font 1. Large disc 2. Film negatives 3. Typemaster D. Procedure 1. Selection 2. Print key 3. Spacing adjustment 4. Composition cut 5. Automatic develop-ing 6. Finished print V. Projection types A. Photo-typositor 1. Filmstrip font 2. Enlarging 3. Reductions 4. Highly versatile B. Staromat 1. Strip-style font 2. Lenses 3. Projection mirror 4. Procedure VI. Automated typesetters A. Kinds and styles B. CAM terminals Task Detail Develop tasks with machines and resources available.	Perform tasks Performance test	

MAJOR BLOCK IV
COLD TYPE
COMPOSITION

TASK: 3. First Generation Phototext

AIM: The student will be able to describe the earliest phototext typesetting machines.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting	Related Knowledge		
	I. Early phototext typesetters A. 1946-1956 B. Modified typesetters 1. Converted hot-type 2. Set cold-type C. Operation 1. Manual a. Keyboard b. Tape 2. Similar to typewriter D. Fotoseter operation 1. Mats assembled a. Keyboard command b. Operator control 2. Justified 3. Tungstem light 4. Film/paper exposed 5. Mats returned 6. Developed film 7. Ready for paste-up	Reading assignment Discussion Questions	Ref. #2
	II. Disadvantages A. Mechanical design B. Keyboard operation C. Became obsolete	Oral quiz	

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MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 4. Second Generation

AIM: The student will be able to explain electronic-photomechanical methods of phototypesetting and the components of an electronic installasion.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting	**Related Knowledge**		
	I. Electronic-photomechanical	Reading assignment Discussion	Ref. #2
	A. Built-in computer		
	B. Automatic character exposure		
	1. Xenon light	Field trip Questions Demonstrate	Operator's manual
	2. Film negative font		
	3. Onto film or paper		
	C. Justification		
	1. May be operator controlled		
	2. Assistance of minicomputer		
	3. May be automatic		
	II. Direct-entry machines		
	A. Commands		
	1. Built-in keyboard		
	2. Cable-connected		
	B. Components		
	1. Standard keyboard		
	2. Display screen		
	3. Memory		
	4. Minicomputer		
	5. Character generation		
	C. Optical system		
	D. Makeready		
	1. Definition		
	2. Steps		
	a. Paper/film		
	b. Type font		
	c. Type size adjustment		
	d. Width adjustment		
	3. Settings		

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) a. Line length b. Leading c. Hyphen mode d. Justification mode e. Spaceboard ranges f. Letterspacing g. Intercharacter spacing E. Operation 1. Keyboard copy a. To minicomputer b. To memory c. To screen d. to film/paper 2. Justification a. Operator controlled b. Computer assisted 3. Self contained processor 4. Paste-up camera copy III. Separate-entry machines A. No keyboard B. Taped commands 1. Punched paper 2. Magnetic tape 3. Electronic signals C. Auxiliary keyboard D. On-line signals E. High speed F. Components 1. Reader 2. Memory 3. Computer 4. Optical system		

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MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) 5. Processor G. Process sequence 1. Copy signal preparation 2. Makeready 3. Operation a. Tape loaded b. Start switch on c. Reads into memory d. Recalls and phototypesets e. Computer controls f. Output processed g. Ready for paste-up H. Electronic installation 1. Very sophisticated 2. Large city newspaper 3. Components a. Controller 1) Computer 2) Information storage and retrieval 3) Memory b. Inputs 1) Reporters (OCR) 2) Wire service 3) Classified ads		

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) c. Editing 1) Hard copy 2) Video display terminal d. CAM terminal 1) Composition 2) Make-up e. Automated typesetter 1) Typesetter 2) Processor	Take class on field trip to installation of this type	
	Task Detail Develop tasks as resources permit	Perform tasks Performance test	

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 5. Third Generation

AIM: The student will be able to explain the advantages and operating principles of third generation phototypesetters.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting	Related Knowledge I. CRT phototypesetters A. Cathod-ray-tube 1. Image display screen 2. Similar to television B. Electronic and comterized C. Commands 1. Tapes 2. Keyboard separate 3. Other devices D. Automatic composition 1. Hyphenated 2. Justified E. Projection-exposure 1. Final output size 2. Final position 3. Very high speed II. Character generation A. CRT dot-mosaic 1. Characters in dot pattern 2. Row and dots coded a. Numbers assigned b. Type characters described c. Digitally encoded d. Stored in memory B. Procedure 1. Type fonts loaded 2. Copy input	Reading assignment Discussion Explain processes Field trip	Ref. #2 Operator's manual

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) a. Tape or punched paper b. Interpreted c. Fed into memory 3. Recalled characters a. Assigned digital code b. According to font 4. CRT deflection circuity a. Directed by code b. Reproduces characters c. In typesetting window d. Printout CRT e. Through lens f. Paper or film C. CRT Raster-line 1. Characters in lines 2. Type fonts a. Glass b. Film photo negative 3. Computer directed 4. Copy input a. Paper tape b. Magnetic tape c. Disc d. In-line digital signal 5. Through reader 6. Stored in memory		

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) 7. Released to computer 8. CRT circuit a. Directed by computer b. Generates scanning raster c. Character selection CRT 9. Objective lens 10. Through character 11. Image focused by condenser lens 12. Pickup photocell 13. To printout CRT 14. Sizing lens 15. Paper or film III. Advantages A. No moving font carriers B. High speed composition 1. 4000 characters per second 2. One page per second Task Detail Take class on field trip to establishment having one of these phototypesetters		

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 6. Fourth Generation

AIM: The student will be able to describe the operating principles of laser phototypesetters.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting	Related Knowledge I. Laser phototypesetters A. Completely electronic B. Computer controlled C. Commands 1. Paper or tape 2. On-line or stored 3. Optical character reader OCR D. Type fonts 1. No photographic film 2. Magnetic discs 3. Electrophoto-graphic cartridges E. Output 1. Paper or film 2. Justification automatic II. Laser A. Light amplification by stimulated emission of radiation B. Phototypesetting 1. Paper 2. Film III. Procedure A. Incoming copy 1. Read and converted 2. Stored in memory B. Central processing unit 1. Font memory 2. H & J section C. Character generation logic section	Reading assignment Discussion Field trip Questions	Ref. #2 Operator's Manuals

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Phototypesetting (Continued)	Related Knowledge (con't) D. Laser modulation 1. Vertical deflection 2. Horizontal deflection E. Phototypesetting paper IV. Present trends A. Incoming signal to memory B. Editing and layout C. Computer to laser D. to offset plate Task Detail Take class on field trip to establishment having this equipment		

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 1. Visual Editing/Proofing

AIM: The student will be able to relate methods of proofing and editing electronically sent or stored materials.

MINOR BLOCK D	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Proofreading	Related Knowledge I. Need for editing A. Errors B. Omissions C. Continuity D. Sense E. Grammar F. Hyphenation G. Justification II. Phototype proofs A. Film negatives B. Film positives C. Photoprint paper III. Final proofs A. Vandyke paper B. Blueline or diazo C. Black photoprint D. Electrostatic paper IV. CRT proofing terminal A. Composition corrected 1. Tapes 2. Computer storage 3. OCR input B. Terminal components 1. Signal reader 2. Display screen 3. Main keyboard 4. Auxiliary keyboard 5. Buffer memory 6. Computer control unit 7. Output procedure C. Operating procedure 1. Signal fed into memory 2. Composition on screen	Reading assignment Discussion Questions Demonstrate	Ref. #2

MINOR BLOCK D	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Proofreading (Continued)	Related Knowledge (con't) 4. Corrections made on screen 5. Fed into memory 6. Corrected version recalled 7. Sent to typesetter Task Detail Develop tasks as resources permit or take students to a facility with a CRT or VDT for a demonstration		

MAJOR BLOCK IV
COLD TYPE COMPOSITION

TASK: 2. Copy Editing/Proofing

AIM: The student will be able to describe procedure used to read and mark printed copy.

MINOR BLOCK D	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Proofreading	Related Knowledge I. Line printer A. Hard-copy printer 1. Separate unit 2. Various installations a. Print from tape b. On-line controller B. Prints for proofing C. File copy II. Finish copy A. Kept clean, unmarked B. Make duplicates 1. For proofing 2. For approval III. Proofreaders' marks A. Shorthand B. Used in margin C. Used in text IV. Procedure A. Usually two people B. Reading aloud 1. Indicates figures or words 2. Capital letters 3. Spells out words/ names C. The other marks 1. Errors 2. Punctuation 3. Paragraphing 4. Others D. Marked proof 1. Returned to compositor	Reading assignment Discussion Questions Demonstrate	Ref. #2

MINOR BLOCK D	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Proofreading (Continued)	**Related Knowledge (con't)** 2. Original copy also 3. Corrections E. Revised proof 1. Checked against original 2. New errors 3. Second revised proof **Task Detail** Print a page of text with "planted" mistakes and have pairs of students proof and mark the errors	Perform task	

MAJOR BLOCK V

CAMERA

TASK: 1. History of Photography

AIM: The student will be able to describe the main events as photography developed into what it is today.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography	Related Knowledge		
	I. 1802-1850		
	A. Silhouette image	Lecture/discussion	Ref. #2
	1. 1802		
	2. Davy and Wedgewood		
	3. Procedure		
	B. Daguerreotypy	Explain	
	1. French - 1839		
	2. Process		
	3. Morse - U.S.		
	4. Brady		
	C. Negatives	Question/answers	
	1. Talbot		
	2. England		
	3. Process		
	4. Neipce - 1847		
	5. Used glass		
	6. Procedure same		
	II. 1850 - Present		
	A. Wet-collodian		
	1. Archer - 1851		
	2. England		
	3. Process		
	4. Mathew Brady		
	B. Dry negatives		
	1. Charles Bennett - 1878		
	2. Process		
	3. Eastman - 1889		
	a. Eastman-Kodak		
	b. Celluloid base		
	c. Advantages		
	III. Halftone screen		
	A. Talbot - 1852		
	B. Ives - 1885		
	1. Glass negatives		
	2. Advantages		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography (continued)	Related Knowledge (con't) C. In present use 1. Engraved sheets 2. Process color work 3. Contact halftone screens IV. Photo-offset lithography A. Metal plates - 1910-20 B. Two-color press C. Four-color press D. Web-fed press E. Offset duplicators Develop tasks as resources permit	Oral quiz	

MAJOR BLOCK V

CAMERA

TASK: 2. Camera Parts and Functions

AIM: The student will be able to identify the components of a process camera and describe the functions of each.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography	Related Knowledge		
	I. Definitions	Reading assignment	Ref. #2
	A. Line copy	Lecture	
	B. Line negative	Discussion	
	C. Process camera	Demonstration	
	II. Theory of		
	A. Light reflection		
	B. Reversed image		
	C. Focus		
	D. Film exposure		
	E. Negatives		
	III. Film		
	A. Types		
	B. Components		
	C. Prescreened film		
	1. Advantages		
	2. Limitations		
	IV. Process cameras		
	A. Basic parts		
	1. Lens or front case		
	2. Back or rear case		
	3. Copyboard		
	4. Lights		
	B. Focal length		
	1. Lens and film size		
	2. Distortion		
	3. One focal length		
	4. 100%--same size		
	5. Determine FL	Demonstrate procedure	
	C. Diaphragm		
	1. Structure		
	2. Aperture opening		
	3. f-stop		
	4. Corrections		
	D. Shutter		
	1. Electric		
	2. Manual		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography (continued)	Related Knowledge (con't) E. Back or rear case 1. Ground glass 2. Film holder 3. Glass halftone screen a. Screen tints b. Contact screens 4. Bellows 5. Controls	Test on camera parts and functions	
	Task Detail Identify camera parts Describe functions		

MAJOR BLOCK V

CAMERA

TASK: 3. Make Camera Adjustments

AIM: The student will be able to make necessary camera adjustments and prepare camera for operation.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography	Related Knowledge		
	I. Parts of camera	Reading assignment	
	II. Lens setting	Discussion	
	III. Bellows extension	Examination of camera	
	IV. Copyboard extension	Explanation	
	V. Exposure		
	VI. Combinations		
	A. Film and filters		
	B. Colors	Pictorial test on camera parts	Pictorial test: Teacher prepared
	Task Detail		
	1. Set camera to shoot 100%	Demonstrate	
	2. Refer to lens information to determine focal length	Emphasize care in handling camera	
	3. Set bellows at two focal lengths	Emphasize cleanliness in handling camera	
	4. Set copyboard at two focal lengths	Emphasize attitude in appreciation for camera and materials	
	5. Set lens on third "f" stop	Practice on task	
	6. Open glass on copyboard	Performance test	
	7. Place copy in center of copyboard, close glass		
	8. Turn on camera lights		
	9. Use line guage, measure image on ground glass for same size, 100%		
	10. Check image focus, move copyboard back and forth		

MAJOR BLOCK V

CAMERA

TASK: 4. Darkroom Procedure

AIM: The student will be able to prepare darkroom for film development and be able to locate all materials and equipment as needed in the development of film.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography	Related Knowledge I. Methods of developing film II. Solutions III. Order of trays IV. Gray scale V. Safety lights VI. Cautions	Reading assignment Darkroom procedure sheet Explanation Discussion Oral questions Test	Ref. #2 Procedure sheet: Teacher prepared
	Task Detail 1. Check safe light for ortho film 2. Mix developer, follow directions on canister 3. Mix shortstop, follow directions on canister 4. Mix fixer, follow directions on canister 5. Check order of trays and arrange 6. Place overflow pipe in sink 7. Turn on water (temperature controlled sink) 8. Check film cabinet and locate film 9. Locate all controls and switches	Demonstrate Use procedure sheet Emphasize caution Practice on task Performance test	

MAJOR BLOCK V

CAMERA

TASK: 5. Make Line Negative

AIM: The student will be able to operate a camera, shoot line copy, and develop film negative.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography	<u>Related Knowledge</u> I. Orthochromatic film II. Panchromatic film III. Monochromatic film IV. Enlarge, reduce, same size V. Film development	Reading assignment Discussion Explanation Oral questions	Ref. #2 Film manufacturer's information on specific film
	<u>Task Detail</u> 1. Set camera to shoot 100% 2. Place copy in center of copyboard as in camera adjustment 3. Turn on camera lights 4. Remove lens cap 5. Check image for focus on ground glass 6. Cut ortho film to size to cover image 7. Place in film holder door, close door 8. Expose film 9. Cap film and turn off 10 Remove film from camera 11. Develop film to step 4 on gray scale 12. Rinse film 13. Dry film	Demonstrate Task sheet	Task sheet: Teacher prepared

MAJOR BLOCK V

CAMERA

TASK: 6. Clean Camera

AIM: The student will be able to maintain camera in good operating condition using the proper cleaning materials and equipment.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Line Photography	**Related Knowledge**		
	I. Darkroom camera	Reading assignment	Ref. #2
	II. Gallery camera	Checksheet for camera care	Checksheet: Teacher prepared
	III. Vertical camera	Explain use of checksheet	
	IV. Camera care	Discussion	
	Task Detail		
	1. Open film holder door	Demonstrate	
	2. Vacuum inside of bellows	Emphasize cautions	
	3. Vacuum outside of bellows	Practice on task, use check sheet	
	4. Remove lens cap		
	5. Carefully brush lens with lens brush	Performance test	
	6. Clean copyboard glass		
	a. Front and back		
	b. Use soft clean rag and ammonia		
	7. Clean ground glass as in step 5		
	8. Clean monorail		
	a. Use soft clean rag		
	b. Remove all dust		
	9. Clean camera lights		
	a. When lights are cold		
	b. Use soft clean rag		

MAJOR BLOCK V

CAMERA

TASK: 1. Halftone Theory

AIM: The student will be able to demonstrate the considerations in selecting materials for the production of halftone copy.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Halftone Copy	Related Knowledge		
	I. Definitions		
	A. Halftone negative	Lecture/discussion	Ref. #2
	B. Halftone copy	Explain	
	C. Ruled lines		
	D. Reversed printing	Demonstration	
	E. Crop marks		
	F. Layout		
	G. Combinations		
	II. Screening techniques		
	A. Glass screen		
	B. Contact screen		
	C. Prescreened film		
	D. Screen tints		
	III. Tone variation		
	A. Densitometry		
	1. Opacity		
	2. Density		
	3. Transmittance		
	4. Reflectance		
	B. Calculating values		
	C. Densitometer		
	1. Types	Demonstrate use	Manufacturer's manual
	2. Uses		
	IV. Film		
	A. Contrast		
	B. Sensitivity		
	C. Curves	Graph demonstration	Teacher prepared
	D. Types and uses		
	1. Blue sensitive		
	2. Orthochromatic		
	3. Panchromatic		
	E. Film speed		
	V. Enlargements/reductions		
	A. Scale		
	B. Constant time method		
	D. Constant aperture method		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Halftone Copy (continued)	Related Knowledge (con't) VI. Film processing A. Inspection method B. Time and temperature method C. Sensitivity guide method VII. Contact printing A. Printing on paper B. Film negative to contact film positive C. Film positive to contact film negative D. Film negative to projection print	Test	

MAJOR BLOCK V

CAMERA

TASK: 2. Make Halftone Negative

AIM: The student will be able to utilize information and skills developed in preceding tasks, use screens, and make flash exposures to make halftone negatives.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Halftone Copy	<u>Related Knowledge</u> I. Review screens and uses II. Detail exposure III. Flash exposure IV. Densitometers	Reading assignment Display of screens Explanation Discussion Oral questions	Ref. #2
	<u>Task Details</u> 1. Set camera for 50% 2. Determine density range, place density scale on copy 3. Set camera for desired exposure 4. Position copy in center of copyboard 5. Remove lens cap, and turn on camera lights 6. Check image for focus on ground glass 7. Place film in film holder 8. Clean contact screen with soft rag 9. Place screen over film, close door 10. Make detail exposure 11. Open film holder door, make flash exposure 12. Process film	Demonstrate Emphasize cautions Task sheet Practice on task Perfromance test	Task sheet: Teacher prepared

MAJOR BLOCK V

CAMERA

TASK: 3. Make Re-Screened Halftone Negative

AIM: The student will be able to use a screened copy and make a re-screened negative satisfactory for use in printing.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Halftone Copy	Related Knowledge		
	I. Review screening techniques	Reading assignment	Ref. #2
	II. Auto screen film	Explanation	
	III. Duotones	Discussion	
	IV. Filters	Oral questions	
	Task Detail		
	1. Set camera to shoot 150%	Demonstrate	
	2. Place pre-screened copy in copyboard	Task sheet Emphasize accuracy	Task sheet: Teacher prepared
	3. Place film in camera	Practice on task	
	4. Select screen 50 lines finer than copy	Performance test	
	5. Place screen over film		
	6. Set angle 30 degrees more than copy NOTE: Flase exposure is not to be made		
	7. Make detail exposure		
	8. Process film		

MAJOR BLOCK V

CAMERA

TASK: 1. Color - A Factor of Light

AIM: The student will be able to explain color as a factor of light absorption and reflection and how this is used in color printing.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Color Reproduction	Related Knowledge		
	I. Review previous lesson	Reading assignment	Block II, Minor Block B, Task 3, Principles of Color
	II. Light	Lecture	
	A. Natural light		
	B. Artificial light		
	1. Sources	Prism demonstration	Ref. #2
	2. Temperature factors		
	3. Wavelengths		
	III. Dimensions of color	Discussion	
	A. Hue		
	B. Value		
	C. Chroma		
	IV. Mixing colors		
	A. Addative mixing		
	B. Subtractive mixing		
	V. Color printing		
	A. Flat color printing	Examples	
	B. Process color printing		
	VI. Color production		
	A. Transparent inks		
	B. Opaque inks		

MAJOR BLOCK V

CAMERA

TASK: 2. Color Photography

AIM: The student will be able to explain how color films react to light and are processed.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Color Reproduction	Related Knowledge I. Monochromatic films A. Blue-sensitive B. Orthochromatic C. Panchromatic 1. Tones of gray 2. Color separation II. Color film A. End products B. Structure 1. Emulsion layers 2. Silver salts 3. Dye coupler III. Pictures from color negatives A. Negative productions 1. Subject photographed 2. Latent image formed 3. Colors develop 4. Processing and fixing B. Contact printing 1. Negative is filter 2. Copy emulsion a. Structure similar b. Development same 3. Final processing 4. Color positive a. Problems b. Color correction	Reading assignment Lecture Discussion Explain steps	Ref. #2

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Color Reproduction (continued)	Related Knowledge (con't) IV. Transparencies/slides A. Reversal color film B. Viewed by projected light C. Image production similar D. No color corrections	Oral quiz	

MAJOR BLOCK V

CAMERA

TASK: 3. Process Color Production

AIM: The student will be able to describe methods used to develop plates for color printing.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Color Reproduction	Related Knowledge		
	I. Process ink colors A. Yellow B. Magenta C. Cyan	Reading assignment Lecture	Ref. #2
	II. Black ink A. Increase density range B. Shadow detail C. Control balance of colors	Discussion Show examples	
	III. Color reproduction copy A. Reflection copy B. Transparent copy		
	IV. Color separations A. Direct method 1. Separation negatives 2. Four exposures a. Different filters b. Different screen angles c. First three colors d. Final black 3. Halftone negatives 4. Color correction a. Purpose b. Photographic masking c. Electronic scanning d. Hand retouching 5. Plates made 6. Run separately B. Indirect method 1. Filters	Demonstration	

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Color Reproduction (continued)	Related Knowledge (con't) 2. Continuous tone separation negative 3. Continuous tone film positive 4. Color correction 5. Halftone screen 6. Color corrected halftone negative 7. Printing plate	Test	
	Task Detail Design color printing projects as resources permit	Performance test	

MAJOR BLOCK VI

STRIPPING

TASK: 1. Drawing Tools

AIM: The student will be able to describe proper use and care of drawing tools used in stripping.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Tools and Materials	Related Knowledge		
	I. Drawing pencils	Discussion	Ref. #2
	A. Grades		
	B. Uses		
	C. Sharpening	Demonstrate	
	1. Points		
	2. Sharpeners		
	D. Proper procedures	Oral questions	
	II. T-square		
	A. Types		
	B. Ruling lines		
	C. Drawing board		
	D. Procedures		
	III. Triangles		
	A. Common types		
	B. Parallel lines		
	C. Use with square		
	IV. Protractor		
	A. Use		
	B. Procedures		
	V. Scales and rules		
	A. Types		
	B. Uses		
	C. Scaled drawings		
	VI. Compasses		
	A. Purposes		
	B. Types		
	C. Parts		
	D. Procedure		
	VII. Dividers		
	A. Uses		
	B. Procedures		
	VIII. Bow instruments		
	A. Types		
	B. Adjusting procedure		
	C. Uses		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Tools and Materials (continued)	Related Knowledge (con') IX. Ruling pen A. Purpose B. Parts C. Inking procedure D. Proper use E. Cleaning F. Sharpening nibs	Performance test over tool identification and their use	

MAJOR BLOCK VI

STRIPPING

TASK: 2. Supplies and Equipment

AIM: The student will be able to identify and describe uses of items used in stripping a flat.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Tools and Materials	Related Knowledge		
	I. Stripping paper	Reading assignment	Ref. #2
	A. Goldenrod	Discussion	
	B. Weight		
	C. Structure		
	D. Plastic sheets		
	II. Supplies for stripping	Display	
	A. Colored litho tape	Demonstrate use	
	B. Transparent tape		
	C. Stripping knife		
	D. T-square		
	E. Steel ruler		
	F. Steel triangles		
	G. Scribing tools		
	H. Scissors		
	I. India ink		
	J. Ruling pen		
	K. Dividers		
	L. Opaque solution		
	M. Artist's brushes		
	N. Magnifying glass		
	III. Stripping table		
	A. Types		
	B. Structure		
	C. Spacing mechanism		
	D. Uses		
	E. Proper procedure	Oral Quiz	

MAJOR BLOCK VI

STRIPPING

TASK: 1. Make Flat for Letterhead

AIM: The student will be able to follow directions, select materials, and equipment, and strip a flat or an opaque for one-up job.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Strip Flat	<u>Related Knowledge</u>		
	I. Flat	Reading assignment	Ref. #2
	II. Stripping negatives	Display of equipment	
	III. Stripping positives	Display of flats	
	IV. Terms		
	A. Gripper margin		
	B. Right reading		
	C. Wrong reading		
	D. Windows		
	E. Register marks		
	F. Leading edge		
	G. Press sheet		
	H. Centerline		
	V. Opaquing	Explain	
	VI. Layout table	Discuss	
	VII. Negative preparation		
	A. Emulsion side		
	B. Base side	Oral questions	
	<u>Task Detail</u>		
	1. Select plate-size 80lb. double coated goldenrod stock	Demonstrate Task sheet Emphasize neatness and accuracy	Task Sheet: Teacher prepared
	2. Position stock on layout table, long edges top and bottom	Practice on task Performance test	
	3. Position paper on layout table, use "T" square as in previous tasks		
	4. Tape paper to layout table		
	5. Locate center of flat		
	6. Draw a line from top to bottom and left to right		
	7. Draw in gripper margins across bottom of stock		
	8. Cut wedge out of paper		

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MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Strip Flat (continued)	Related Knowledge (con't) on vertical line at bottom of stock, use exacto knife 9. Measure and draw in press sheet size 10. Measure and draw in image area 11. Trim negative a. Use scissors b. to within ⅛' of image 12. Place negative on flat emulsion side up 13. Square negative with "T" square 14. Tape negative to flat at corner of negative 15. Turn flat over 16. Cut out window over image area, use stripping knife 17. Turn flat over 18. Opague all pin holes and scratches on emulsion side of negative		

MAJOR BLOCK VI

STRIPPING

TASK: 2. Make Flat for 4-Up Job

AIM: The student will be able to utilize skill and information acquired in previous task and strip a flat for multiple jobs.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Strip Flat	**Related Knowledge** I. Imposition II. Step-and-repeat	Reading Assignment Illustrations on chalkboard Lecture Oral questions Test	Ref. #2
	Task Detail 1. Make dummy for 8-page book 2. Repeat steps 1 through 9 for letterhead flat 3. Mark in additional lines to indicate ⅛" trim for all edges of press sheet 4. Draw in area for 4 pages NOTE: Pages to be run head to head 5. Draw in ½" trim between page heads 6. Indicate cylinder marks a. Cut out sliver approximately 1/64" b. Outside printing area c. At left and right sides of flat 7. Indicate page folios according to dummy 8. Repeat steps 10 through 18 from letterhead flat task	Task for book Demonstrate Supervised practice Performance test	Task: Teacher prepared

MAJOR BLOCK VI

STRIPPING

TASK: 3. Make Two Color Flat

AIM: The student will be able to explain how flats for jobs with two or more colors are stripped.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Strip Flat	<u>Related Knowledge</u> I. Main flat A. All negatives stripped B. Circled notations 1. Printed in black 2. Printed in red C. Register crosses II. Second sheet A. Over back on main flat B. Register windows C. Windows for black print D. Identify color III. Third sheet A. Over main flat B. Register mark C. Windows for red print IV. Other methods A. Duplicate negatives B. Overlays C. Key-line drawing D. Tint screens E. Ruby film F. Others <u>Task Detail</u> Develop tasks as resources permit	Reading assignment Discussion Demonstrate Performance test Test	Ref. #2

MAJOR BLOCK VII

PLATEMAKING

TASK: 1. Characteristics and Care

AIM: The student will be able to describe basic characteristics of offset plates and relate proper procedures for caring for them.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Offset Plate Fundamentals	Related Knowledge I. Characteristics A. Surface 1. Clear area 2. Image area 3. Grain a. Purpose b. Graining methods 4. Sensitized a. One side b. Two sides B. Thickness 1. Small plates 2. Large plates C. Form 1. Cut to size 2. Roll form D. Materials 1. Cellulose base paper 2. Plastic coated paper 3. Acetate 4. Metals 5. Metal-paper 6. Plastic-metal 7. Bi-metal 8. Tri-metal E. End styles 1. Straight 2. Serrated 3. Slotted 4. Punched 5. Other	Reading assignment Discussion Show examples	Ref. #2 Various manufacturer's booklets

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Offset Plate Fundamentals (continued)	Related Knowledge (con't) II. Plate care A. New plates 1. Storage 2. Handling 3. Light B. Developed plates 1. Gumming a. Purpose b. Procedure 2. Asphaultum a. Precautions b. Asphaltum 3. Putting the plate under C. On the press 1. Attaching plate 2. Washing 3. Precautions a. Run interrupted b. Gumming on press 4. End of run a. Run down plate b. Gum and remove D. Storage 1. Wash out ink 2. Asphaltum 3. Shallow stacks 4. Hangers 5. Other methods	Demonstration Review Oral quiz	

MAJOR BLOCK VII

PLATEMAKING

TASK: 2. Plate Types

AIM: The student will be able to describe types of plates that may be used in the printing industry.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Offset Plate Fundamentals	Related Knowledge I. Surface plates A. Direct image 1. Forms available a. Pre-cut b. Continuous roll 2. Base materials a. Paper b. Plastic c. Metals 3. Usually called masters 4. Uses 5. Durability B. Presensitized plates 1. Advantages 2. Light sensitive coatings a. Silver halides b. Bichromated c. Diazo materials d. Ferric compounds e. Photo-electrostatic f. Thermographic C. Contact exposed presensitized plates 1. Advantages 2. Disadvantages 3. Types a. Negative working b. Positive working	Reading assignment Discussion Examples	Ref. #2

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MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Offset Plate Fundamentals (continued)	Related Knowledge (con't) 4. Coatings a. Additive b. Subtractive D. Whirler coated 1. Albumin a. Ingredients b. Advantages c. Disadvantages d. Cautions E. Transfer plates 1. Gelatin - silver 2. Silver - diffusion 3. Thermographic F. Wipe-on 1. Diazo 2. Albumin G. Electronic scanning H. Electrostatic plates 1. Contact 2. Projection II. Deep-etch plates A. Advantages B. Disadvantages III. Relief plates A. Metal dry-offset 1. Description 2. Etching process B. Kodak relief plate 1. Presensitized 2. Steel base 3. Silver-halide C. Dyeril photopolymer 1. Photosensitive 2. Backing a. Metal b. Polyester film	Review-summarize Quiz	

MAJOR BLOCK VII

PLATEMAKING

TASK: 3. Plate Exposure

AIM: The student will be able to describe procedures used to expose plates and to explain the step and repeat platemaking function.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Offset Plate Fundamentals	Related Knowledge I. Components A. Exposure frame 1. Positive contact a. Vacuum b. Air bag c. Foam rubber 2. Cover glass B. Light source 1. Arc light 2. Mercury-vapor bulb 3. Pulsed-xenon II. Exposure control A. Frame position B. Distance C. Distance-time formula D. Step gray scale 1. Placement 2. Step 6 III. Photo-direct platemaker A. Camera B. Reflected light C. Reduce-enlarge IV. Step and repeat A. Purpose B. Procedure C. Machines 1. Exposure frame printer 2. Shop made devices V. Electrostatic A. Platemakers B. Processes C. Advantages	Reading assignment Discussion Demonstrate Questions/answers Oral quiz Performance test	Ref. #2

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MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Offset Plate Fundamentals (continued)	Task Detail Demonstrate platemaking and step and repeat as resources permit		

MAJOR BLOCK VII

PLATEMAKING

TASK: 1. General Steps-Presensitized

AIM: The student will be able to list the general procedure for providing negative-working and positive-working plates.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing	**Related Knowledge** I. Negative-working plate A. Expose plate-negative flat B. Desensitize C. Develop-lacquer D. Gum E. Use or store II. Positive-working plate A. Expose film positives or transparencies B. Stage out with solution C. Develop plate D. Intensify image-lacquer E. Gum **Task Detail** Practice preliminary step of preparing negative working and positive working plates.	Discuss List on chalkboard Demonstrate	Ref. #2 Manfacturer's directions

MAJOR BLOCK VII

PLATEMAKING

TASK: 2. Direct-Image Plate

AIM: The student will be able to select materials and equipment and prepare a direct-image plate for flexible application from finished copy information.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing	**Related Knowledge** I. Plate characteristics II. Care of plates III. Types of plates IV. Direct-image plates V. Steps in making plate VI. Solutions	Reading assignment Illustrations on chalkboard Explanation Oral questions Discussion	Ref. #2
	Task Detail 1. Prepare handset type form 2. Cut stock plate size from scrap 3. Mark gripper margin of stock 4. Position type on proof press 5. Pull proof 6. Check position and margins on proof 7. Make corrections on proof 8. Print two direct-image plates 9. Handle plates on gripper edge only 10. Allow ink to dry 11. Place plate in typewriter 12. Type remaining copy from chalkboard 13. Remove errors with clean eraser rubbing lightly	Copy on chalkboard for handset type and plate Demonstrate Practice on task Performance test	

MAJOR BLOCK VII

PLATEMAKING

TASK: 3. 3M "R" Plate

AIM: The student will be able to correctly process a 3M "R" plate after exposure.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing	Related Knowledge		
	I. "R" process gum	Discussion	Ref. #2
	A. Wipe evenly		
	B. Cover entire palte	Demonstrate	Manufacturer's instructions
	C. Cellulose sponge		
	D. Remove excess		
	II. "R" developer		
	A. Apply before gum dries	Explain	
	B. Image decides amount		
	C. "R" pad		
	D. Circular motions		
	E. Cover entire plate		
	F. Rub until strong red image		
	G. Precautions		
	1. Too much developer causes weak, pink image	Show examples	
	2. If developer dries too fast add a little water		
	III. Flush		
	A. Remove excess		
	B. Inspect		
	IV. Dry		
	A. Use squeege		
	B. Cautions-image rubs off		
	1. Gum film dried before lacquer rubbed smooth		
	2. Lacquer pad used earlier with gum		
	V. Gum and polish dry		
	A. Use cellulose sponge		
	B. Small amount "R" gum		
	C. Polish dry		
	D. Use soft cheesecloth		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing (continued)	Related Knowledge (con't) E. Caution-never use fan Task Detail Student to process a 3M "R" plate or another requiring similar steps. NOTE: If plates of other manufacturers are used, use this lesson and their instructions to develop your own lesson and task sheet.	Performance test	

MAJOR BLOCK VII

PLATEMAKING

TASK: 4. A.B. Dick 7000 and 8000 Series

AIM: The student will be able to expose and process A.B. Dick offset plates, Series 7000 and 8000.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing	Related Knowledge I. Handling hints A. Handle in subdue light B. Reclose package C. hold by edges D. Lift out - never slide II. Approximate exposure time A. 8000 Series 1. Model 107 a. Film negative-4-5 minutes b. Stencil negative-4-5 minutes 2. Model 106 a. Film negative-4-6 minutes b. Stencil negative-8-10 minutes B. 7000 Series 1. Model 107 a. Film negative-3 1/2 minutes b. Stencil negative-4 minutes 2. Model 106 a. Film negative-6 minutes b. Stencil negative-8 minutes C. Use 21 step sensitivity guide III. Processing tips A. Immediate desensitizing	Discussion Explanation Questions/answers	Manufacturer's direction sheet A.B. Dick Company, Chicago, Illinois 60648

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing (continued)	Related Knowledge (con't) B. Work surface 1. Very clean 2. Non-porous 3. Larger than plate 4. Avoid scratching with pads 5. Moisten with de-sensitizer C. Slightly bend upward, lower corner of plate IV. Visible image A. Desesitizer 1. Shake before using 2. One or two capfuls 3. Wipe on a. Evenly b. Entire surface c. Clean, moist sponge d. Leave thin film B. Red lacquer 1. Shake before using 2. Plate still wet 3. 1 1/2 inch spot 4. Non-image area 5. Different, moist sponge 6. Spread over plate 7. Develop image a. Sweeping strokes b. Side to side 8. Cautions a. No short, circular strokes b. End on non-image area		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Plate Processing (continued)	Related Knowledge (con't) 9. If plate dries a. Add desensitizer b. Very small amount c. Continue developing 10. Bright red image C. Washing 1. Rinse sponge 2. Wash the plate a. Excess lacquer b. Desensitizer c. Use running water D. Gum for delayed run E. Polish dry V. No visible image A. Short runs only B. Desensitizer 1. Wipe on evenly 2. Entire surface 3. Clean, moist sponge 4. Remove excess C. Polish dry 1. Clean cotton pad 2. Plate ready Task Detail Develop both lessons and task details for each type of plate used in your class. Use manufacturer's directions for use sheets.	Demonstrate Practice on task Performance test	

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MAJOR BLOCK VIII

OFFSET PRESS

TASK: 1. Offset Inks

AIM: The student will be able to describe the inks used in offset printing, their manufacture, and terms in ink terminology.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ink and Paper	**Related Knowledge**		
	I. Working qualities	Reading assignment	Ref. #4, Prust, Z.A., Photo-Offset Lithography, The Goodheart-Wilcox Co., Inc., South Holland, IL 1977
	A. Fountain solution reaction	Discussion	
	1. Should not absorb		
	2. Should not combine		
	B. Full color coverage	Examples	
	C. Consistency	Questions/answers	Ref. #2
	D. Tack		
	II. Components		
	A. Vehicle		
	B. Pigments		
	1. Coal tar		
	2. Color inks		
	C. Modifiers		
	III. Steps in manufacture		
	A. Ingredient preparation		
	B. Measure-mixing		
	C. Grinding		
	D. Testing		
	E. Packaging		
	IV. Storage		
	A. Inks differ		
	B. Avoid drying		
	C. Removal procedure		
	D. Resealing container		
	E. Varnish cover		
	V. Colors		
	A. Ready-mixed		
	1. Special orders		
	2. Advantages		
	B. Hand mixing		
	1. Shades and tints		
	2. Cautions		
	VI. Terminology		
	A. Viscosity		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ink and Paper (continued)	Related Knowledge B. Tack C. Length D. Opacity E. Transparency F. Permanence 1. Fast 2. Fugitive 3. Resistant G. Lakes H. Toners I. Black 1. Job black 2. Halftone black J. Metallic K. Water colors VII. Transfer ink A. Textile industry B. Graphic communications C. Components 1. Dye 2. Capsules D. Transfer sheets E. Process	Test	
247	Task Detail Develop tasks as resources permit		

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MAJOR BLOCK VIII

OFFSET PRESS

TASK: 2. Fountain Solution

AIM: The student will be able to prepare the dampening solution for an offset press.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ink and Paper	**Related Knowledge**		
	I. Function	Reading assignment	Ref. #2
	A. Wetting solution	Illustrate on chalkboard	Ref. #4
	B. Process	Discussion	
	II. Components for aluminum plate		
	A. Distilled water	Demonstrate	Manufacturer's manual
	B. Magnesium nitrate		
	C. Ammonium dichromate		
	D. Phosphoric acid		
	E. Gum arabic		
	III. Preparation		
	A. Caution		
	1. Add acid to water		
	2. Never the reverse		
	B. Follow manufacturer's directions		
	IV. pH factor		
	A. Definition		
	1. Alkalinity		
	2. Acidity		
	3. pH scale		
	B. Recommended		
	1. Zinc plate - 3.8		
	2. Aluminum - 4.6		
	3. Problems		
	a. Acid too low		
	b. Acid too high		
	C. pH testing		
	1. Test papers		
	2. Procedure	Practice task Performance test	
	Task Detail		
	1. Obtain two gallon jugs		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ink and Paper (continued)	Task Detail (con't) 2. Place 1/2 gal. of water in one jug 3. Place 9 oz. magnesium nitrate in same jug 4. Place 5/8 oz. phosphoric acid in same jug 5. Place 1 3/4 oz. ammonium dichromate in same jug 6. Complete filling jug with water 7. Mix solution thoroughly 8. Measure out 2 oz. of above solution and place in second jug 9. Add 1 oz. 14° gum arabic solution to second jug 10. Fill second jug with water 11. Mix solution thoroughly 12. Check second solution for 4.6 pH factor, use lithographic test paper 13. Add more of first solution if pH factor is over 4.6		

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MAJOR BLOCK VIII

OFFSET PRESS

TASK: 3. Offset Papers

AIM: The student will be able to discuss the manufacturing process of papers, define terms, and estimate paper stock needs for printing jobs.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ink and Paper	<u>Related Knowledge</u> I. Working qualities A. Proper affinity for ink B. Resistance to softening 1. Surface may flake 2. Dirty ink 3. Change pH C. Surface 1. Flat 2. Lint free 3. Finish II. Pulps for paper A. Ground wood 1. Low cost 2. Poor quality 3. Uses B. Re-cycled paper C. Cooked pulps 1. Soda 2. Sulphite 3. Alpha-cellulose 4. Sulphate D. Re-cycled rags E. Cotton III. Papermaking process A. Pulp production B. Treated fibers 1. Bleaching 2. Loading-clay 3. Opacity-titanium dioxide 4. Sizing C. Beating D. Paper Machines 1. Wet end 2. Press section	Reading assignment Discussion Questions/answers Demonstrate	Ref. #2 Ref. #4

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ink and Paper (continued)	Related Knowledge (con't) 3. Drying section 4. Calendering IV. Terms A. Ream B. Package C. Pieces D. Sheet E. Felt side F. Wire side G. Weight H. Basic weight V. Metric paper sizes A. SI metric system B. Series 1. A-0 to 8 2. B-0 to 8 VI. Estimating-buying A. Sheets or rolls 1. Package 2. Carton 3. Bundle B. Estimating needs 1. Importance of accuracy 2. Vertical method 3. Diagonal method VII. Basic size varies A. Writing papers B. Book C. Cover D. Others Task Detail Practice estimating stock needs for various printing jobs	Demonstrate on chalkboard Work problems on chalkboard Test	

MAJOR BLOCK VIII

OFFSET PRESS

TASK: 1. Offset Lithography Printing

AIM: The student will be able to describe similarities and differences in various types and designs of offset duplicators and presses.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Fundamentals	Related Knowledge		
	I. Theory	Reading assignment	Ref. #2
	A. Offset lithography duplicator	Discussion	
	B. Offset lithography press	Illustrations on chalkboard	Ref. #4
	II. Machines		Manufacturer's manual
	A. Kinds	Oral questions	
	B. Sizes	Examples	
	C. Common features		
	III. Major systems		
	A. Feeding		
	B. Dampening		
	C. Inking		
	D. Impression		
	E. Delivery		
	IV. Special systems		
	A. Electronic inking-dampening		
	B. Automated sorting		
	C. Automated collation		
	D. Quality control monitors		
	E. Folders		
	F. Color units		
	G. Others		
	V. Safety		

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MAJOR BLOCK VIII
OFFSET PRESS

TASK: 2. Principles of Operation

AIM: After completing this lesson the student will be able to explain the operation of the vaious systems of an offset press.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Fundamentals	Related Knowledge I. Feeding system A. Platform B. Guides C. Blowers 1. Function 2. Controls D. Suction feet E. Joggers F. Adjustments G. Double sheet detector H. Stop fingers I. Feed rollers II. Printing system A. Three cylinder system 1. Plate cylinder a. Function b. Plate securing types c. Adjustments d. Cautions 2. Blanket cylinder a. Function b. Cautions c. Proper care 3. Impression cylinder a. Function b. Grippers 4. Operation B. Two cylinder system 1. Large cylinder a. Twice as large b. Both plate and impression c. One revolution	Reading assignment Illsutrations Discussions Demonstrations Oral questions	Ref. #4 Manufacturer's operators manual

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MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Fundamentals (continued)	Related Knowledge (con't) 2. Small cylinder a. Blanket b. Two revolutions 3. Operation III. Dampening system A. Function B. Types 1. Mollenton 2. Aquamatic C. Components 1. Fountain roller 2. Ductor roller 3. Vibrator/oscillator 4. Form roller D. Cautions E. Checking procedures F. Controls IV. Inking system A. Components 1. Ink fountain 2. Fountain roller 3. Ductor roller 4. Distributor roller 5. Vibrator roller B. Fountain controls 1. Adjustment keys 2. Fountain roller rotation C. Roller adjustment 1. Follow specifications 2. Differ with presses 3. Checking procedures V. Delivery system A. Systems vary 1. Chain delivery 2. Chute delivery		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Fundamentals (continued)	Related Knowledge (con't) B. Problems 1. Static electricity 2. Setoff 3. Health hazards C. Components VI. Press safety		

MAJOR BLOCK VIII
OFFSET PRESS

TASK: 3. Install Plate and Blanket

AIM: The student will be able to prepare and install plate and blanket on offset press cylinders.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Fundamentals	**Related Knowledge** I. Plate cylinder II. Securing III. Blanket cylinder IV. Care of blanket V. Pressure check	Reading assignment Illustrations on chalkboard Discussion Oral questions	Manufacturer's manuals for specific press
	Task Detail 1. Handle plate at trailing and/or leading edge 2. Turn press by handwheel, use left hand 3. Turn press until leading edge of plate cylinder is up 4. Attach leading edge of plate to pin bar 5. Turn handwheel until trailing end of cylinder is up 6. Attach trailing edge of plate in cylinder 7. Tighten clamp screw; do not over tighten 8. Turn handwheel until leading edge of blanket cylinder is up 9. Hook blanket to blanket cylinder hook 10. Hold trailing edge of blanket in left hand 11. Turn handwheel with right hand until trailing edge of cylinder is up 12. Attach trailing edge of blanket to blanket cylinder clamp	Demonstrate Emphasize safety Practice on task Performance test	

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Fundamentals (continued)	Task Detail (con't) 13. Tighten clamp screw; do not over tighten		

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MAJOR BLOCK VIII
OFFSET PRESS

TASK: 1. Run Duplicator

AIM: The student will be able to set ink, dampening, printing, feeding, and delivery of an offset duplicator and turn out a satisfactory print job.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Press Operation	Related Knowledge I. Ink form roller adjustment II. Inking III. Feed IV. Delivery V. Adjustments VI. Safety	Reading assignment Discussion Oral questions	Manufacturer's directions on supplies Manufacturer's manuals on specific press
	Task Detail 1. Ind and dampening controls in off position 2. Place ink in fountain 3. Run press adjust fountain screws 4. Fill fountain bottle with fountain solution 5. Place fountain bottle in fountain 6. Turn press on, allow dampening roller to pick up solution 7. Install plate 8. Place sheet to be run on center of feet table 9. Slide left pile guide to sheet 10. Load feeder 11. Slide right pile guide to pile 12. Turn feed table crank until top of pile is up to suction feed 13. Set tail guide to pile 14. Slide sheet separators to front of pile	Demonstrate Emphasize safety Emphasize attitude of appreciation for machine, materials, and work quality Practice on task Performance test	

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Press Operation (continued)	Task Detail (con't) 15. Turn on air pump 16. Adjust air blast to flutter top few sheets 17. Fold strip 2" x 11" in half of stock to be run 18. Adjust sheet detector so one thickness fits under it, not two 19. Turn on press and air 20. Run one sheet down feed board, stop press, turn off air 21. Adjust side guides 22. Set rider wheels just off tail of sheet 23. Run sheet through press to delivery 24. Set jogger to width and length of sheet 25. Remove gum from plate with clear sponge and water 26. Turn on press 27. Drop dampener rollers 28. Drop ink rollers after several revolutions of press 29. Roll up plate 30. Turn on air 31. Bring plate and blanket in contact 32. Run test sheets with impression lever turned to on position		

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MAJOR BLOCK VIII

OFFSET PRESS

TASK: 2. Wash-up Press

AIM: The student will be able to clean plate, blanket, ink and dampness system of offset press in order to maintain press in good operating condition for next job.

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Press Operation	**Related Knowledge**		
	I. Run down plate II. Plate storage III. Methods of wash-up IV. Cleaning materials V. Storing rollers VI. Lubrication	Reading assignment Lecture Drill on lesson Oral questions	Ref. #2
	Task Detail		
	1. Ink and dampening controls off 2. Run twelve sheets through press with impression on 3. Stop press, turn all controls off 4. Clean plate with clean soft rag and solvent 5. Remove plate and apply gum 6. Clean blanket with rag and solvent 7. Clean blanket with water to remove gum 8. Re-clean blanket with solvent 9. Dry blanket with clean rag 10. Remove fountain colution bottle 11. Clean fountain 12. Remove fountain roller 13. Clean fountain roller with pumice and stone 14. Remove molleton roller and other dampeners	Demonstrate Emphasize safety Practice task Performance test	

MINOR BLOCK C	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Press Operation (continued)	Task Detail (con't) 15. Clean rollers with detergent and water, dry, and store 16. Remove ink from fountain and discard ink 17. Clean fountain with solvent 18. Place removable rollers on bench 19. Clean rollers with solvent, dry, and store 20. Turn press by handwheel 21. Clean remaining rollers on press 22. Wipe press clean of ink, solvent, gum, and paper lint		

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MAJOR BLOCK IX

BINDERY

TASK: 1. Tool and Machine Safety

AIM: The Student will be able to describe safety practices and procedures in the use of finishing tools and machines.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	Related Knowledge I. Personal safety A. Dress 1. Clothing 2. Jewelry 3. Wrist watch 4. Hair 5. Safety glasses B. Attitudes 1. Toward self 2. Toward others C. Machine operation 1. One machine operator 2. Visiting 3. Taking short-cuts 4. Permission D. Horseplay II. Paper cutters A. Types 1. Table top 2. Hydraulic a. Single knife b. Three knife B. Proper use C. Hazards 1. Lever 2. Knife 3. Lock III. Electrical safety A. Heating elements 1. Hot stamp machine 2. Hot glue pot B. Insulated wire 1. Electric current 2. Wire care	Discussion Questions Demonstrate Safety test	Ref. #1 Operating manuals

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing (continued)	Related Knowledge (con't) C. Reporting hazards IV. Tool safety A. Hand shears B. Staple puller C. Sewing needle D. Binder's knife E. Dovetail saw F. Folding bone G. Rule H. Backing press I. Wire stitcher Task Detail Practice proper use of tools	Demonstrate Performance test	

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MAJOR BLOCK IX

BINDERY

TASK: 2. Finishing Terms

AIM: The student will be able to define terms and describe procedures used in bindery and finishing work.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	Related Knowledge I. Folding A. Purpose B. Stock sheet C. Press sheet D. Planning 1. Measurements 2. Calculations 3. Press spoilage 4. Cutting chart E. Types of folds F. Scoring 1. Scoring rule 2. Tongue and groove rollers II. Perforating A. Purpose B. Methods 1. Perforating rule 2. Pin bar 3. Perforating wheel III. Cutting A. Purpose B. Parts of cutter 1. Table 2. Backgage 3. Backgage handwheel 4. Clamp 5. Clamp wheel 6. Knife a. Lever b. safety lock IV. Gathering A. Sheets B. Signatures	Discussion Questions Demonstrate Stress safety	Ref. #1 Operating manuals

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MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing (continued)	Related Knowledge (con't) C. Collating 1. Marks 2. Pattern D. Sorting machines 1. Semi-automatic 2. Automatic V. Punching and drilling A. Purpose B. Hand punches C. Drilling machines VI. Die cutting A. Purpose B. Die preparation C. Standard presses D. Special machines VII. Hot stamping A. Purposes B. Process C. Machines 1. Hand operated 2. Hydraulic VIII. Laminating A. Purpose B. Process IX. Shrink wrap A. Purpose B. Process Task Detail Develop tasks as resources permit	Demonstrate task Performance test	

MAJOR BLOCK IX

BINDERY

TASK: 3. Cut Stock to Size

AIM: The student will be able to make the necessary calculations in order to determine stock size and amount, and cut stock and padding to required dimensions.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	**Related Knowledge**		
	I. Types of paper	Reading assignment	Ref. #1
	II. Figuring and cutting stock	Class discussion	
	III. Paper size and weight	Drill on mathematics	Operating manual
	IV. Figuring stock for jobs	Oral questions	
	V. Padding	Test	
	VI. Hand jogging		
	Task Detail		
	1. Calculate amount of bond, 17" x 22", needed to obtain 200 pieces of stock 4 1/4" x 6 1/4"	Demonstrate Emphasize safety Use scrap stock for jogging Practice on task Performance test	
	2. Obtain bond from storage		
	3. Place bond on cutter table		
	4. Adjust cutter measure a. Loosen wing nut on wheel b. Turn wheel and move cutter measure to 6¼" c. Tighten wheel wing nut		
	5. Jog stock against back stop and to left side of cutter		
	6. Position all sheets even		
	7. Pull clamp lever to hold sheets in position		
	8. Pull cutter blade lever with both hands		
	9. Take out cut stock		
	10. Place uncut stock against back stop, make remaining 6 1/4" cuts		
	11. Set cutter for 4 1/4" cut		
	12. Repeat steps 5-10 until cut is completed		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing (continued)	Task Detail (con't) 13. Place 4 1/4" x 6 1/4" piece of chip board on top and bottom of stock 14. Jog stock on cutter table 15. Hold pile firm and place on edge of padding table 16. Place weight on top of short side of pile 17. Apply thin coat of padding compound on short side of pile with paint brush, cover entire area 18. Add second coat of padding compound when first coat has dried 19. Clean brush in water 20. Clean work station		

MAJOR BLOCK IX

BINDERY

TASK: 4. Set-up Single Head Paper Drill

AIM: The student will be able to adjust, align, operate single head paper drill, and drill specified holes in printed pages accurately.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	**Related Knowledge** I. Review collation method II. Figuring stock for books III. Dummy for book job IV. Signatures - collating V. Allowance for trim VI. Paper drill and set-up VII. How paper is drilled	Reading assignment Discussion Drill on mathematics Oral questions Test	Ref. #1 Operating manuals
	Task Detail 1. Set drill bit height, bit should just touch wooden desk 2. Set back stop to drill hole 1/4" from stock edge 3. Set side stops, set to drill 5 holes 4. Insert 8 1/2" x 11" paper under drill against back and side stops 5. Start drill with foot on flow pedal 6. Drill first hole 7. Move side stop and drill second hole 8. Repeat step 7 until all holes are drilled 9. Check holes in paper for accuracy 10. Clean work station	Demonstrate Emphasize safety Emphasize accuracy Practice on task Performance test	

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MAJOR BLOCK IX

BINDERY

TASK: 5. Sharpen Paper Drill Bit

AIM: The student will be able to operate drill bit sharpener and sharpen drill bit efficiently and effectively.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	**Related Knowledge**		
	I. Hollow drill sharpener	Explanation	Manufacturer's manual for specific drill
	II. Drill bit removal	Oral questions	
	III. Waxing drill bit	Discussion	
	Task Detail		
	1. Turn off power to drill	Demonstrate	
	2. Insert small screwdriver in hole in drill chuck	Emphasize safety Practice on task	
	3. Pry bit down and out with screwdriver	Performance test	
	4. Remove cover from bit sharpener		
	5. Place bit in sharpener cutting end down		
	6. Replace cover on sharpener		
	7. Rotate sharpener to right three complete turns		
	8. Remove sharpener cover		
	9. Remove bit from sharpener		
	10. Check drill bit cutting end		
	11. Repeat steps 4-10 if cutting edge is not sharpened properly		
	12. Replace bit in chuck, align head of bit in chuck and shove up		
	13. Seat bit in chuck, step on pedal and bring bit down against wooden disc		

MAJOR BLOCK IX

BINDERY

TASK: 6. Set-up Friction-Feed Folder

AIM: The student will be able to adjust, prepare, and operate desk top type friction-feed folding machine.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	**Related Knowledge** I. Adjustments II. Size capability III. Feeder IV. Delivery V. Rolling out stock **Task Detail** 1. Adjust first plate for half size of sheet to be folded 2. Place sheet under friction wheel 3. Adjust folder for stock thickness 4. Adjust side guide to sheet size 5. Feed one sheet of stock through machine turning machine by hand 6. Set delivery and check fold 7. Roll stock approzimately 1" 8. Load stock in feeder 9. Run 2 or 3 sheets through machine, check fold 10. Run remainder of stock	Illustrations on chalkboard Fold shapes Method to follow for machine adjustment Discussion Oral questions Demonstrate Emphasize accuracy Roll stock for feeding Practice on task Performance test	Manufacturer's manuals for specific folder

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MAJOR BLOCK IX

BINDERY

TASK: 7. Operate Suction Feed Folder

AIM: The student will be able to set up and adjust suction feed folder and operate machine making various folds in stock.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Finishing	**Related Knowledge** I. Review kinds and types of folds II. Perforating and scoring III. Feeding IV. Delivery **Task Detail** 1. Position stock a. Short side on feed board b. Against front and left stops 2. Turn crank of feed board, raise top of stock pile to suction wheel 3. Adjust right guide against pile 4. Adjust first plate measure to one half the length of sheet to be folded 5. Turn on folder and suction feed 6. Slide feed handle and fold one sheet 7. Check fold, make necessary adjustments on first plate 8. Turn off feeder and folder 9. Repeat steps 4, 5, 6, 7 on second plate for french fold 10. Check second fold 11. Run job to completion	Discussion Lecture Oral questions Demonstrate Emphasize accuracy Emphasize attitude of appreciation for work quality, machines, and materials Practice on task Performance test	Manufacturer's manuals for specific folder

MAJOR BLOCK IX

BINDERY

TASK: 1. Basic Methods

AIM: The student will be able to explain the hows and whys of various binding methods used in the industry.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Binding	**Related Knowledge** I. Purpose of binding A. Durability B. Ease of use C. Eye appeal II. Binding Methods A. Mechanical 1. Spiral-wire 2. Plastic-cylinder B. Wire staple 1. Saddle stitch 2. Side stitch C. Loose-leaf 1. Rings 2. Post 3. Friction D. Perfect E. Sewn 1. Soft covers 2. Hard covers F. Ultrasonic welding **Task Detail** Develop tasks as resources permit	Reading assignment Discussion Show examples Questions	Ref. #1

MAJOR BLOCK IX

BINDERY

TASK: 2. Thread Wire Stitcher

AIM: The student will be able to prepare wire stitching operation.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Binding	Related Knowledge		
	I. Single head stitchers II. Multiple head stitchers III. Wire sizes and shapes IV. Wire uses	Explanation Discussion Drill on lesson	Manufacturer's manuals for specific machine
	Task Detail		
	1. Remove empty spool 2. Place new spool on spindle 3. Remove wire end from hole in spool 4. Exercise caution, prevent wire from uncoiling 5. Thread wire through spring feed 6. Thread wire through roll wheels to head 7. Position scrap stock under stitcher head 8. Remove excess wire, press pedal and stitch scrap stock	Demonstrate Emphasize safety Practice on task Performance test	

MAJOR BLOCK IX

BINDERY

TASK: 3. Set-up Wire Stitcher

AIM: The student will be able to prepare wire stitcher for proper operation and saddle and side stitch pamphlet and books.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Binding	Related Knowledge		
	I. Methods of fastening sheets	Display of types of bindings Explain	Ref. #1
	II. Saddle stitch	Discuss	Manufacturer's manuals for specific stitcher
	III. Side stitch	Oral questions	
	Task Detail		
	1. Measure thickness of book to be stitched	Demonstrate Emphasize safety	
	2. Adjust thickness gauge a. Loosen handle b. Set gauge c. Tighten handle	Emphasize attitude of appreciation for machine and materials Practice on task Performance test	
	3. Position back stop on work plate for side stitch		
	4. Set back stop to stick 1/4" from book edge		
	5. Lock back stop down		
	6. Repeat steps 1, 2, 3 for saddle stitch		
	7. For saddle stitch remove back stop		
	8. Remove retaining pin from under work plate		
	9. Tilt plate to form inverted "V"		
	10. Replace retaining pin under work plate		

MAJOR BLOCK IX

BINDERY

TASK: 4. Case Binding

AIM: The student will be able to describe parts of a book and explain how they are put together.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Binding	Related Knowledge I. Book parts A. Body B. Case C. End sheets D. Backbone or spine E. Super F. Binder's board G. Book cloth H. Backing paper I. Lining J. Headbands K. Gummed tape L. Thread II. Sewing methods A. Saddle sewn 1. Through center 2. Notebooks, record books B. Flat sewn 1. Through side 2. School texts C. Signature-to-signature 1. Most expensive 2. Any thickness III. Steps A. Signatures folded B. Gathering C. End sheets glued D. Signatures sewn E. Forwarding 1. Nipping 2. Smashing 3. Trimming 4. Rounding/backing 5. Super glued 6. Headbands/lining	Reading assignment Discussion Examples Questions/answers Demonstrate	Ref. #1

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Binding (continued)	Related Knowledge (con't) F. Case prepared G. Casing in H. Forming/pressing I. Jacketing J. Distribution Task Detail Develop tasks as resources permit		

MAJOR BLOCK X ENTREPRENEURSHIP	TASK: 1. Free Entreprise AIM: The student will be able to define (describe) our economic system and compare it with other major economic systems. The student will further be able to explain the basis of our economics, list the primary factors of production, and identify the important groups in our economic system.		
MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Economic Systems	Related Knowledge I. The rise of economic systems A. Dawn of civilization B. Discovery of tools C. Specialization/division of labor D. Industrialization E. Trade devleopment II. Standard of living A. How well off people of a society are B. Synonymous with "economy" C. Measured by dividing total production by population III. Factors of production A. Land (resources) B. Labor (people) C. Capital (money invested) D. Technology (education; know-how) IV. Basic questions every economic system must answer A. What goods and services are to be produced? B. Who shall procude them? C. How shall they be produced? D. For whom shall they be produced? V. Basis of free entreprise A. Private property B. Private entreprise C. Freedom of choice	Lecture/discussion Discuss: History and background that gave rise to economic systems Define: Standard of living; how it is measured	Ref. #6, Woodburn, Clint H., An Introduction to Vocational Industrial Education, Vocational Instructional Services, Texas A&M university, F.E. Box 182, College Station, Texas 77843

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ecomonic Systems (Continued)	Related Knowledge (con't) VI. Major types of economic systems today A. Pure capitalism B. Modified capitalism C. Socialism D. Communism VII. Pure capitalism A. Exists in theory only B. Individuals afforded liberties basic to free enterprise 1. People determine kinds of goods and services 2. No government control VIII. Modified capitalism A. Laws regulate business activities to protect the people 1. Economic freedoms stated 2. Prevents monopolies B. Public determines product (supply and demand) C. Promotes finding better way (new products) D. Stresses importance of individual 1. Occupational choice 2. Personal incentive 3. Private ownership E. Competition controls quality; price IX. Socialism A. Government controls major industries 1. Transportation	Explain: Laws protect the people; limited natural resources	

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ecomonic Systems (Continued)	Related Knowledge (con't) 2. Communication 3. Power and utilities B. Secondary industry private ownership C. Secondary dependent on major; hence government controls 1. Prices 2. Wages X. Communism A. Production of goods and services in hands of government 1. Government owns everything 2. Government decides all aspects of business and production 3. Private business non-existent B. Promotes communism itself 1. No individual choice or freedom 2. No incentive; wastes individual talent 3. Stresses conformity; all rely on government XI. Important groups in a capitalistic society A. Entrepreneurs-planners, organizers B. Managers-overseers C. Workers-produce goods/services D. Consumers-utilize goods/services	Emphasize: Advantages of capitalistic economy Review: Questions/answers	

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MAJOR BLOCK X

ENTREPRENEURSHIP

TASK: 2. Forms of Business Ownership

AIM: The student will be able to identify and describe the different forms of business ownership actively engaged within the free enterprise system.

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Economic Systems	Related Knowledge I. Sole proprietorship A. Owned and controlled by one individual B. Most common form of business ownership in America (75%) C. Mostly small-medium sized D. Advantages 1. Fewer restrictions for starting/terminating venture 2. Sole decision maker 3. Easier to manage 4. All profits belong to owner 5. Simpler tax structure 6. Higher credit standing II. Partnerships A. General partners 1. Have equal and unlimited liability 2. All partners active in firms operation B. Limited partners 1. One dominant partner assumes unlimited liability; is the decision maker 2. Other limit liability to amount of money they invest	Lecture/discussion Recite: Examples of each form in the community; state	Ref. #7, Woodburn, Clint H., Entrepreneurship - The Art of Business Ownership, Vocational Instructional Services, F.E. Box 182, Texas A&M University, College Station, Texas 77843. 1984

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Ecomonic Systems (Continued)	Related Knowledge (con't) C. Silent partner 1. Known as a partner 2. Takes no active part in management D. Nominal partner 1. Lends name to venture 2. Makes no investment nor assists in operation E. Advantages of partnership 1. Increased source of capital and credit 2. Improved decision making potential 3. Better possibilities for expansion and growth III. Joint venture A. Partnership created for particular purpose B. Partnership dissolved when objective is accomplished C. Advantages 1. Increases power of bidding and acquiring contracts IV. Syndicates A. Resemble both general partnership and joint venture B. Organize to conduct financial transactions C. Advantages 1. Increases buying power		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Economic Systems (Continued)	Related Knowledge (con't) 2. Beneficial to small business with mutual needs V. Unincorporated associations A. Most often used by non-profit organizations B. Exist to provide services to members C. Annual dues; fees levied membership financing D. Examples 1. Credit associations 2. Fraternal organizations 3. Charities VI. Corporations A. Usually outgrowth of other forms of ownership B. Largest of all forms of ownership C. Multi-owners called stockholders D. Regarded as an artificial being with 1. Right to enter contracts 2. Conduct business in own name E. Must file for and receive corporate charter to do business F. Charter defines: 1. Type of business 2. Number of shares of stock 3. Basis of corporate structure		

MINOR BLOCK A	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Economic Systems (Continued)	Related Knowledge (con't) G. Corporate organization 1. Stockholders (owners) 2. Board of directors (policy makers) 3. President (head) 4. Corporate officers (division heads) 5. Managers 6. Supervisors 7. Workers H. Advantages 1. Indefinite life 2. Limited liability 3. Ease of ownership transfer 4. Growth potential 5. Managerial efficiency Task Detail 1. Design a questionnaire in preparation of interviewing owners of local businesses 2. Select and interview a local business owner 3. compare results of interview in class	Guest speaker; "Free Enterprise" Questions and answer session	Guest speaker: Civic leader

MAJOR BLOCK X

ENTREPRENEURSHIP

TASK: 1. Entrepreneurship

AIM: The student will be able to describe entrepreneurship; identify many risks and responsibilities in starting a business; and weigh the advantages/disadvantages of business ownership.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business	Related Knowledge I. Facts about entrepreneurship in U.S. A. One of every eight persons on labor force is B. 10.8 million of country's 88 million labor force are single owner small businesses C. 87% of total business operations are small 1. Over 10 million have annual sales under $100,000.00 2. 7 1/2 million single owner business show receipts less than $25,000 II. Personal traits characteristic entrepreneurs A. Passion to acheive 1. Pride of achievement 2. Leave personal, last-mark 3. Make name for self 4. Aspire to fame B. Urge to be boss 1. Independence motivation stronger than security 2. Desire to plot own course C. Self-confidence 1. Expects and desires role of decision maker	Lecture/discussion Explain: Role small business plays in american economy	Ref. #7 Ref. #8, Woodburn, Clint H., Development of Professional Attitudes, Vocational Instructional Services, Texas A&M University, F.E. Box 182, College Station, TX 77843

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business (Continued)	Related Knowledge (con't) 2. Delights in facing problems and making decisions D. Energy (physical stamina) E. Determination F. Versatility and adaptability		
	III. Advantages of entrepreneurship A. Fills important basic needs to 1. Achieve 2. Meet challenge; make decisions 3. Demonstrate creativity; individuality B. Opportunity to develop close relationship with: 1. Customers 2. Employees C. Pride and prestige of ownership D. Unlimited financial growth potential	Class discussion: Advantages; disadvantages (instructor guide discussion) List: Advantages/disadvantages on chalkboard	
	IV. Disadvantages of entrepreneurship A. Long work hours B. Risk of financial loss C. Burdens often heavy on family D. Contend with confines of regulatory agencies		
	V. Necessary skills of the entrepreneur A. Ability to plan - set goals B. Ability to organize - means of attaining goals	Discuss: Necessary skills of an entrepreneur	

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business (Continued)	Related Knowledge (con't) C. Ability to control - cause people to do things productively		

MAJOR BLOCK X ENTREPRENEURSHIP	TASK: 2. Loans, Finance, and Credit AIM: The student will be able to define secured and unsecured loan, collateral and lines of credit. The student will also be capable of properly writing a personal check and balancing a personal checking account.		
MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business	Related Knowledge I. Types of loans A. Unsecured loan 1. Promissory note 2. Called signature loan 3. Requires no collateral B. Secured loan 1. Formally written 2. Specifies terms; interest 3. Requires collateral II. Sources of loans A. Personal savings B. Family; friends C. Banks; trust companies D. Credit unions E. Government III. Forms of collateral A. Real estate B. Insurance policies C. Pledge companies assets IV. Lines of credit A. Personal reputation 1. Honesty 2. Integrity B. Credit ratings 1. Better Business Bureau 2. Banks 3. Charge accounts V. Terms and interest A. Terms - conditions of loan 1. Amount of loan 2. Length of loan	Lecture/discussion Define: Collateral List: Examples Discuss: Credit; importance of "good credit"; honesty; integrity Explain: Simple interest Compound interest Principal Unpaid balance	Ref. #7 Guest speaker: Loan officer, local bank

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business (Continued)	Related Knowledge (con't) 3. Interest rate charged 4. How loan is to be repaid 5. guarantees B. Interest - charge for loan 1. Simple 2. Compound 3. Principal 4. Unpaid balance VI. Banking A. Accounts 1. Checking account 2. Passbook savings 3. Certificates of saving B. Balancing books 1. Deposits 2. Withdrawls 3. Service charges C. Writing checks Task Detail Practice check writing and account balancing	Illustrate: On chalkboard Review	

MAJOR BLOCK X

ENTREPRENEURSHIP

TASK: 3. Contracts

AIM: The student will be able to list the ingredients of a contract and explain what constitutes a valid contract, invalid contract, and breach of contract.

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business	Related Knowledge		
	I. The American Legal System A. Constitution basis 1. Defines laws "rules of the game" within which individuals; businesses must operate 2. Establishes system by which these laws are governed	Lecture/discussion Discuss: History and background of the American Legal System	Ref. #7
	B. Two main sources of law 1. Statutory law (written law) enactments of government 2. Common law (unwritten law) based on court decisions	Describe: The two main sources of law in the United States	
	II. Nature of business law A. Provides orderly conduct of business affairs B. Provides settlement of any disputes arising from these affairs C. Contract law is one of the most important areas of business law D. Everyone, every business, enters into contracts of some sort	Explain: The nature of business law in the United States Guest speaker: "Contracts"	Guest speaker: City attorney, lawyer
	III. Ingredients of a contract A. Voluntary agreement 1. There must be an offer 2. Offer must be accepted	List: Ingredients of a contract	

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MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business (Continued)	Related Knowledge (con't) 3. Agreement must be voluntary B. Competent parties 1. Parties to agreement must be legally qualified 2. Insane persons, convicts, drunkards, minors are not regarded legally qualified	Define: Legally competent, Consideration, Lawful act	
	C. Consideration 1. Must be present for contract to be binding 2. Consideration is something of value received by one party or given up by another	Present: Examples to the class for discussion	
	D. Lawful act - within the law		
	IV. Forms of a contract A. Verbal 1. Parties simply agree among themselves as to terms, conditions 2. Verbal contracts generally will not hold up in court of law		
	B. Written 1. Spells out all terms and considerations 2. Agreement signed and witnessed	Pass out: Sample contract	Pass out: (Teacher prepared)
	V. Types of contracts A. Fixed B. Cost plus fixed fee		

MINOR BLOCK B	INFORMATION & TASK DETAIL	SUGGESTIONS FOR TEACHING	REFERENCES AND AIDS
Going into Business (Continued)	Related Knowledge (con't) C. Cost plus percentage of cost D. Index E. General conditions F. Specifications VI. Contract format A. Cover B. Bid forms C. Instructions to bidder D. Index E. General conditions F. Specifications VII. Clauses to avoid VIII. Breach of contract A. Failure of one party to honor all terms of agreements B. Grounds for lawsuit 1. Plantiff - person instituting lawsuit 2. Defendant - person against whom action is brought IX. Penalties A. Damages and delays B. Performance bonds	Discussion of terms Quiz	

APPENDIX

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SUPPLEMENTAL REFERENCES

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DEVELOPING A FUNCTIONAL COURSE OF STUDY

The vocational industrial teacher should carefully study the objectives of the local school, the objectives of vocational industrial education and the content that should be included in the vocational industrial course of study. The teacher should then select the content and write behavorial objectives which will have a definite relationship to the course. Each objective should be analyzed as to the activity which can be provided to promote its development. The objectives are then accepted or rejected on the basis of facilities available to place the activity into operation. (See Appendix page for a partial list of items that may be used in developing specific objectives for the development of abilities, attitudes and appreciations.)

When selecting the course content for a functional course of study, the vocational industrial teacher should carefully consider each of the following:

1. Provide for the development of skills in all basic processes inherent in the occupation involved.
2. Provide student experiences in the interpretation and use of fundamental factual information basic to the occupation and to the success of the student.
3. Provide experiences in related science, mathematics, blueprint reading and shop sketching and other subjects or topics related to the occupation.
4. Provide learning experiences regarding hazards, benefits, joys, and sorrows connected with a chosen occupation.
5. Provide experiences which will enable students to take their place in life and fulfill their life's needs as an an enlightened citizen and worker.
6. Provide learning experiences whereby students are enabled to see their prospective occupation in relationship to management, labor and the professions.

PROFESSIONAL SERVICES

Texas local school administrators and local school supervisors may obtain the services of area consultants, vocational industrial teacher educators and vocational industrial personnel of Vocational Industrial Services to assist the teacher with the development of the complete course of study. This professional service is available on written request to the Associate Commissioner for Occupational Education, Texas Education Agency, Austin, Texas 78711.

A SUGGESTED LIST OF ITEMS THAT SHOULD BE INCLUDED IN WRITING SPECIFIC OBJECTIVES FOR THE DEVELOPMENT OF ABILITIES, DESIRABLE ATTITUDES, AND APPRECIATIONS

Related technical information
Basic manipulative tasks
Good work habits
Good safety habits
Problem solving
Administering first aid
Make working sketches
Make good use of library
Ability to communicate
Ability to talk effectively
Leadership skills
Reading skills
Understand everyday science
The value of other courses
Basic economics, business & management
State & national issues, related to occupation
Keeping up to date
Civic needs of the community
Adapt to changes in technology
Relate work to manpower situation
Pride in a job well done
Live harmoniously with others
Broad aspects of work-trends-factors
Professional trade associations
Goals of vocational & technical education
Social Security and benefits
Free enterprise system
Techniques of job application
Recognize hazards and remove them
True meaning of loyalty to trade and to self
Open-minded and receptive to change
A sense of balance and proportion
A high quality of workmanship
Needs of others
A willingness to do more than minimum
Workmanship having recognized value
Respect for authority
Rise above failure
Overcome boredom
Value of time
Speak up in defense of principles
A willingness to accept assignment
Reliability-dependability to deliver
Value of experience
Value of speed in production
Value of the tools of the trade
Clean-safe work areas
Ability to plan work effectively
Employee-employer relations
Understand the democratic society
Individual initiative and responsibility
Values of moral conduct and ethical living
Our standard of living
Important people in this field
Mass production
Legislation (related)
History of the industry
Conservation
Listening effectively

ACTIVITIES SHOULD BE PROVIDED TO PROMOTE THE DEVELOPMENT OF EACH ITEM

METHODS OF TEACHING

METHOD	DESCRIPTION	ADVANTAGES	DISADVANTAGES	WHEN TO USE
1. LECTURE	Transferring information verbally. An explanation of the teaching points of each topic	Ability to handle large groups Ability to utilize radio Easy to provide facilities	Limits type of subjects Limits chance to learn Liable to confuse learner Can't measure efficiency	To impart new information To supplement other methods
2. ILLUSTRATION	Use of pictures, charts, maps, sketches, models, films, chalkboard	Brings out hidden features Learn by seeing Good substitution for demonstration Cheaper than demonstration	Sometimes hard to get Doesn't always teach what you want Eliminates teaching for doing ability	Profitable supplement to any other method As a substitute for demonstration
3. DEMONSTRATION	Actually doing the job step by step, explaining the how and why of each step	Builds confidence in instructor Proves information reliable More nearly affords complete learning	Lack of suitable place Lack of suitable equipment Excessive cost Takes time Limits size of class	Instructing for doing ability To supplement other methods
4. CONFERENCE	Drawing information from group and through discussion arrive at conclusion	Uses group experience Brings out best point of experience for new ideas Every man has chance	Experience of group Lack of trained leaders Conference may get out of control Takes a lot of time	Instructing for improved practices To reach conclusions Supplement to other methods
5. QUESTIONS & ANSWERS	Key questions planned by instructor on subject matter of lesson --tie-in with other lessons -- review of previous lesson -- application of lesson	To promote thinking To review Emphasize key points To promote individual participation Helps in developing understanding	Requires time and thought on part of instructor to select and frame good questions Sometimes used to kill time May allow some students to do all the talking if not properly directed	To review & tie-in preceding lesson Before concluding a lesson to review and emphasize major points To bring in experience of class members use with all methods

METHOD	DESCRIPTION	ADVANTAGES	DISADVANTAGES	WHEN TO USE
6. PRACTICE	If skill is to be developed Learner practices performance of skill under close supervision	Develops performance skill	Danger of improper supervision	After instructor demonstrates a doing job the learner should always practice doing the job under supervision of the instructor
7. DRILL	If information is to be understood Learner reviews and repeats main points of information or problem solving until he has it mastered and understands it.	Helps master and retain points of information	Danger of improper supervision	After the instructor has presented an informational lesson with proper teaching aids and explanation, the opportunity to discuss, review or use the information is provided